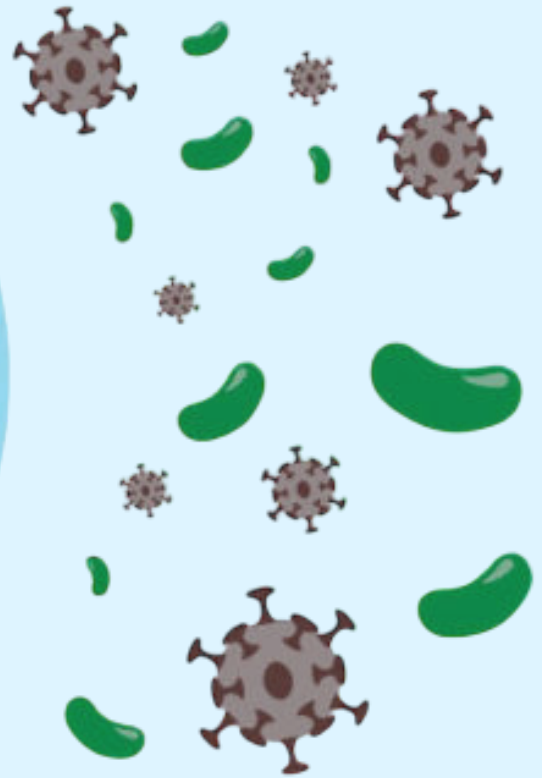


# Immune Archive

*زوح - Final*

**Done by :**

**Haneen Azzeh  
Emran Younis**



**1. Concentration of Tube = 200 micro/ml It decreases 0.5 ml when put 9.3 ml of dilution, complete 3 times of dilution, what is the concentration tube 4?**

- A- 2,6 micro/ml**
- B- 0.025**
- C- 000**
- D- 0.050**
- E- 0.1**

**Answer: B**

**2. the major chemokine supporting neutrophils migration into tissues?**

- A- IL-1**
- B- IL-2**
- C- IL-4**
- D- IL-6**
- E- IL-8**

**Answer: E**

**3. disorder that defect T cell and B cell**

- A- RAG 1 only**
- B- RAG 2 only**
- C- RAG 1 & RAG2**
- D- RAG 1 or RAG 2**
- E- adenosine deaminase ADA**

**Answer: D**

**4. X- linked IL-7 2RY chain deficiency**

- A- normal B cell , no T no NK cell**
- B- defect B cell, no T no NK**
- C- defect B, normal T no NK**
- D- no B cell, normal T no NK**
- E- no B cell, no T no NK**

**Answer: A**

**5 what type of cytokine mediated hypersensitivity reaction**

- A-1**
- B- 2**
- C-3**
- D-4**
- E-5**

**Answer: D**

**6. true regarding tuberculin test**

- A- for testing hypersensitivity type 1**
- B- skin hardening after 72 hr**

**Answer: B**

**Answer: B**



**7. oncogenic virus**

- A- Epstein-Barr virus**
- B- hepatitis B**
- C- Kaposi sarcoma**

**Answer: A**

**8. Antigen present during fetal life but lost during adult, reappear with cancer**

**\* Answer: Oncofetal**

**9. tolerance of B cell for**

- A- recognition the B cell to the self-antigen**
- B- recognition the B cell to the foreign antigen**
- C- Recognition of B cells to other B cells**
- D- Tolerate with extracellular conditions: pH and temperature**

**Answer: A**

**10. mutation in Fas ligand lead to**

- A- oncogenesis**
- B- immunodeficiency**
- C- autoimmune disease**

**Answer: C**

**11 renal basement membrane defects due to**

- A- idiopathic thrombocyte purpura**
- B- good pastures syndrome**
- C- vitiligo**

**Answer: B**

**12 one of the following diseases is type 2&3 hypersensitivity reaction**

- A- lupus**
- B- type 1 diabetic**
- C- rheumatic fever**
- D- ulcerative colitis**
- E- Crohn's disease**

**Answer: A**

**13. one of the following is true regarding Rheumatoid arthritis**

- A- Rheumatoid factor presence for diagnosis**
- B- anti IFN -alpha treatment**

**Answer: A**

**14. all the following is true regarding Rheumatic fever except**

**\* Answer: Latex test use for diagnosis only**



**15. interferon beta can use for treatment**

- A- mythsenia graves**
- B- basic pro protein**

**Answer: B**

**16. hyper acute rejection involve (type 2 hypersensitivity)**

- A- cytokine**
- B- Antibody**

**Answer: B**

**17. calcineurin is**

- A- prevent IL-2 proliferation**
- B- prevent B cell proliferation**
- C- inhibit T cell cytokine**
- D- CTL-A 4**
- E- Fas& Fas L**

**Answer: A**

**18. Which is false about live attenuated vaccine?**

- A- contraindicated for immunodeficient people**
- B- an example is oral polio**
- C- an example is rota virus**
- D- least efficient**

**Answer: D**

**19. which of this interleukin Cause fever?**

**Answer: IL-1**

**A mutation in the genes encoding the enzyme Bruton's tyrosine kinase (Btk) .20 :would lead to which of the following Select one**

- a) Human immuno-deficiency virus (HIV) infection**
- b) Acquired immune deficiency syndrome (AIDS)**
- c) Severe combined immunodeficiency (SCID) syndrome**
- d) Systemic inflammatory response syndrome (SIRS, sepsis)**
- e) X-linked agammaglobulinemia**

**Answer: E**

**21. In agglutination reactions, the antigen is a \_\_\_\_\_ and in precipitation :reactions, the antigen is a \_\_ Select one**

- a) Bound to cell/soluble molecule**
- b) Soluble molecule/bound to cell**
- c) Bacterium/virus**
- d) Protein/carbohydrate**
- e) Virus/bacterium**

**Answer : A**



**22. BCG vaccine should give in?**

- A- colon cancer
- B- lung
- C- bladder cancer
- D- breast
- E- all types of cancers

**Answer: C**

**23. The Pfizer vaccine is?**

- a- mRNA vaccine
- b- DNA

**Answer: A**

**24. Subunit vaccine from pathogen like \_\_\_\_\_ less effective alone so use with**

- 
- A- attenuated vaccine, adjuvant
- B- Toxoid, adjuvant
- C- attenuated vaccine, supplement
- D- Toxoid, supplement

**Answer: B**

**25.**

**Rheumatic fever all correct except**

- A- Streptococcus pyogenes infection
- B- Systemic
- C- only Rheumatic factor

**Answer: C**

**26. Cytokine interleukin-7 is a hematopoietic growth factor capable of stimulating the proliferation of lymphoid \_\_\_. It \_\_\_ affected by X-linked SCID.**

**Select one:**

- a) Hematopoietic stem cells (HSCs); Is
- b) Progenitor (precursor) cells (Pro- B and Pro- T cells); Is
- c) Mature cells; Is
- d) Hematopoietic stem cells (HSCs); Is not
- e) Progenitor (precursor) cells; Is not

**Answer: A**

**27. Which of the following is Type 2&3 hypersensitivity?**

**Answer: SLE (Systemic Lupus Erythematosus)**

**28. Generation T reg require**

- A- IL-6
- B- TGF- $\beta$  & IL-2
- C- TGF- $\beta$  & IL-10
- D- TGF  $\beta$  ONLY

**Answer: B**



**29. hepatitis B surface antigen ( HBsAg) doses**

- A- one
- B- two
- C- three
- D- four
- E- five



**Answer: C**

**30. subunit vaccines recommended in national program**

- A- opv
- B- diphtheria , tetanus
- C- hepatitis B

**Answer: B**

**31. defect in MHC class I and ( or MHC class II ) enhance one of the following**

- A- AIDs (Activation Induced cytidine Deaminase)
- B- HIV
- C- premeditated infection

**Answer: A**

**32. killed vaccine**

- A- Sinopharm
- B- flu virus by nasal spray
- C- rotavirus
- D- oral polio

**Answer: A**

**33. infant male with triad symptoms eczema - thrombocytopenia and susceptibility to bacterial infections**

- A- IGG subclass deficiency
- B- Ataxia telangiectasia
- C- selective IgA deficiency
- D- wiskott - Aldrich syndrome

**Answer: D**

**34. bone marrow transplant use for treatment all the following except**

- A- leukemia
- B- B cell lymphoma
- C- SCID
- D- Autoimmune disorders

**Answer: D**



**35. lymphocytotoxicity assay used for**

- A- mixed leukocyte from donor and recipient in culture
- B- donor serum is tested for reactivity with recipient lymphocyte
- C- recipients serum is tested for reactivity with donor antigen

**Answer: C**

**36. indirect rejection**

- A- CD4& CD8
- B- CD4 ONL
- C- CD8 ONLY

**Answer: B**

**37. what is the cause of fever in bacterial infections**

- A- IL-1 & TNF
- B- bacteria infect hypothalamus

**Answer: A**

**38. IL-4 act in B cell and eosinophils that is mean**

- A- pleiotropic
- B- synergistic
- C- multifunctional
- D- antagonist
- E- redundant

**Answer: A**

**39. all the following are preformed mediators except**

- A- histamine
- B- tryptase
- C- heparin
- D- proteoglycan
- E- prostaglandin

**Answer: E**

**40. use the sheep RBC in?**

**Answer: complement fixation**

**41. The Affinity of an antibody can be determined by**

- a. ELISA (Enzyme-linked immunosorbent assay)
- b. fluorescent antibody (fluorochromes)
- C. FACS (Fluorescence-activated cell sorting)
- d. Western blotting (immunoblotting)
- e. surface plasmon resonance

**Answer: E**



**42. If adenosine deficiency occurs, which of the following is true? Select one**

- a. T cells will be absent but B and NK cells will be present
- b. T and B cells will be absent, but NK cells will be present
- c. B cells will be absent, but T and NK cells will be present
- d. B and NK cells will be present, but T cells will be absent
- e. B, T, and NK cells will be absent

**Answer: E**

**43. Superantigens such as staphylococcal enterotoxins bind to certain TCR chains and to molecules. Select one:**

- a. Alpha, MHC 1
- b. Beta, MHC2
- c. Delta MHC1 OF
- d. Gamma MHC1
- e. Alpha, MHC

**Answer: B**

**44. A young child presents with severe periodontitis; History reveals recurrent pyogenic infections. Which of the following is the most likely? Select one:**

- a) C3 deficiency
- b) Leukocyte adhesion deficiency (LAO)
- c) Wiscott-Aldrich syndrome (WAS)
- d) Hyper IgM syndrome (HIM)
- e) Selective IgA deficiency

**Answer: B**

**45. Global T cell growth Factor. Select one:**

- a) IL-4
- b) IL-10
- c) Interferon-gamma
- d) IL-2
- e) Tumor necrosis factor beta

**Answer: D:**

**46. Example of privileged site**

- A- skin
- B- heart
- C- testis
- D- blood
- E- all of the above

**Answer: C**





47. Cytokines produced by TH1 are \_\_\_\_ and cytokines produced by TH2 are \_\_\_\_ Select one:

- a) IFN-gamma and tumor necrosis factor, IL-4 and IL-5
- b) IL-4 and IL-5; IFN-gamma and tumor necrosis factor
- c) IFN-gamma and IL-4; Tumor necrosis factor and IL-5
- d) Tumor necrosis factor and IL-5; IFN-gamma and IL-4
- e) IFN-gamma and IL-5; Tumor necrosis factor and IL-4

Answer: A

48. Which cell produces IL-12?

- a) Macrophages
- b) Eosinophil
- c) Neutrophil
- d) Mast cell
- e) B Cell

Answer: A

49. Case: eczema, low platelets, infection, and malignancy:

- a) Digeorge syndrome
- b) Ataxia telangiectasia
- c) SCID
- d) Leukocyte adhesion defect
- e) Wiskott-Aldrich syndrome

Answer: E

50. An example of a known oncogenic virus is:

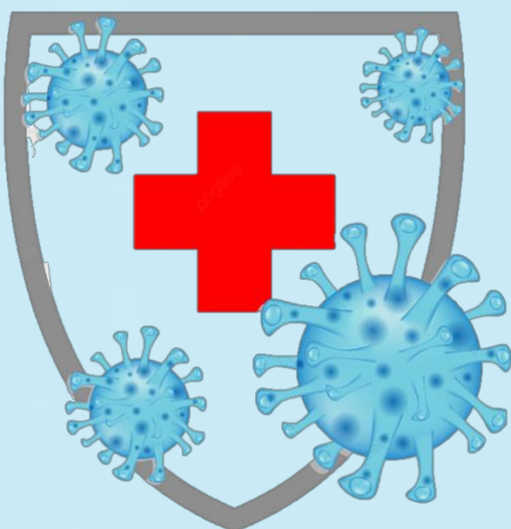
- a) Herpes zoster
- b) HIV-2
- c) Epstein-Barr virus
- d) Vesicular stomatitis virus
- e) Proteus mirabilis

Answer : C

انتبه جيداً..

لا يَمْنَعُكَ حَطْوُكَ عَنِ الْعَمَلِ، وَلَا يَوْقِفُكَ دَنْبُكَ عَنِ الْمَحَاوَلَةِ، وَلَا يَخْدَعُكَ الْفِرَاقُ  
مَهْمَا تَزَيَّنَ لَكَ، عَثْرَتُكَ خَطْوَةَ، وَتَوْبُتُكَ حَيَاةً!  
-قصي عاصم العسيلي-





*Archive*

*immunology*

**N**  
*Collected by*

**a**

**b**



1) A 6-year-old patient presents with vascular dilatation on the whites of the eyes with B and T cells defect Which on the following is the most likely?

Select one:

- a) Ataxia telangiectasia
- b) Wiscott-Aldrich syndrome (WAS)
- c) Hereditary angioedema
- d) Myeloperoxidase deficiency
- e) C3 deficiency

Answer: a

2) Antibody-dependent cellular cytotoxicity (ADCC) is the process by which natural killer cells destroy infected cells, identified by what immunoglobulin on the surface?

Select one:

- a) IgA
- b) IgD
- c) IgE
- d) IgG
- e) IgM

Answer: d

3) For which of the following tests is a lack of agglutination a positive reaction?

Select one:

- a) Hemagglutination
- b) Passive agglutination
- c) Reverse passive agglutination
- d) Agglutination inhibition

e) Latex agglutination

**Answer: D**

4) All of the following are true about immune-complex mediated type III hypersensitivity except

Select one:

- a) immune-complex can formed by serum products.
- b) Tissue damage can be caused by complement activation.
- c) Includes the Arthus reaction.
- d) Requires cytotoxic T cells.
- e) Damage caused by neutrophils and platelets

**Answer: d**

5) A child presents with recurrent infections with bacteria, fungi, and viruses. The Patient has IL-2R gamma chain mutations, which of the following does the patient have?

Select one:

- a) Ataxia telangiectasia
- b) Wiscott-Aldrich syndrome (WAS)
- c) Hereditary angioedema
- d) Severe combined immunodeficiency disease (SCID)
- e) C3 deficiency

**Answer: d**

6) Prozone is:

Select one:

- a) Zone of antigen excess
- b) Zone of equivalence
- c) Zone of antibody excess

d) Zone of complement excess

e) Zone of RBC excess

**Answer: C**

7) Which of the following is used to enumerate and/or separate live cells that express an antigen, sorted by applying an electric charge to the stained cells?

Select one:

a) ELISA (Enzyme-linked immunosorbent assay)

b) Fluorescent antibody (fluorochromes)

c) Flowcytometer

d) Western blotting (immunoblotting)

e) single radial immune diffusion

**Answer: C**

8) what is the basic schematic for an indirect ELISA test?

Select one:

a) Antigen, Primary antibody, Secondary Antibody, Enzyme

b) Antigen, primary antibody, enzyme

c) Antibody, antigen, enzyme

d) Antibody, enzyme

e) Antibody, antigen, antibody, enzyme

**Answer: A**

9) Which of the following are secreted by macrophages after they have recognized pathogens using pattern recognition molecules (induction phase)?

Select one:

a) IL-8

b) IL-4

c) IL-7

d) IL-5

e) TNF

**Answer: E**

**10) A patient in their early 20s presents with recurrent bacterial infections- History shows lymphocytes levels have decreased with age. Which of the following is the most likely?**

Select one:

a) Myeloperoxidase deficiency

b) X-linked agammaglobulinemia

c) Wiskott-Aldrich syndrome (WAS)

d) Common variable immunodeficiency

e) chronic granulomatous disease

**Answer: c**

**11) A child presents with a frequent infection of gram negative bacteria, Which of the following is the most likely?**

Select one:

a) C3 deficiency

b) Hereditary angioedema

c) autoimmune disease

d) SLE

e) Selective IgA deficiency

**Answer: a**

**12) Which of the following vaccines contain epitopes made by recombinant DNA technology**

Select one:

a) Pneumococcal (PCV)



- b) Haemophilus influenza type B
- c) Hepatitis B
- d) Diphtheria,
- e) tetanus, pertussis

**Answer: c**

**13) A deficiency in complement inhibitors could lead to which of the following?**

**Select one:**

- a) Meningitis
- b) Leprosy
- c) X-linked hyper-IgM syndrome
- d) Hereditary angioedema
- e) X-linked agammaglobulinemia

**Answer: D**

**14) Which of the following is used to detect the production of cytokines inside cells.**

**Select one:**

- a) ELISA (Enzyme-linked immunosorbent assay)
- b) Fluorescent antibody (fluorochromes)
- c) Flow cytometer
- d) Western blotting (immunoblotting)
- e) single radial immunodiffusion

**Answer: C**

**15) All of the following are autoimmune disorders except Select one:**

- a) Graves disease
- b) SCID
- c) Rheumatoid arthritis
- d) crohn's disease

e) SLE

**Answer: B**

16) Amount of various immunoglobulin classes can be measured by Select one:

- a) double diffusion in one dimension
- b) single diffusion in radial dimension
- c) single diffusion in one dimension
- d) double diffusion in radial dimension
- e) Double diffusion in 3 dimensions

**Answer: B**

17) Foreign antigens synthesized within body cells are presented by Select one: غير مطلوب

- a) Class I MHC molecules to cytotoxic T cells.
- b) class II MHC molecules to helper T cells.
- c) class I MHC molecules to helper T cells.
- d) class II MHC molecules to CD4-bearing cells.
- e) class II MHC molecules to cytotoxic T cells-

**Answer: a**

18) which of the following matches the description with the cytotoxic T cell (CTL) killing mechanism:

Select one:

- a) Potent inducer of apoptosis, Perforin
- b) Degrade host cell proteins and activate caspase enzyme system, Granzyme
- c) Forms a pore in the target cell membrane, Fas ligand
- d) Degrade host cell proteins and activate caspase enzyme system, Perforin
- e) forms a pore in the target cell membrane, Granzyme

**Answer: B**

19) If antibody is uniformly distributed in a gel and antigen is added to a well cut into the gel, the process is called:

Select one:

- a) single diffusion.
- b) double diffusion.
- c) immunofixation.
- d) Retrodiffusion
- e) Complement fixation

Answer: a

20) An example of a known oncogenic virus is:

Select one:

- a) Herpes zoster
- b) HIV-2
- c) Epstein-Barr virus.
- d) Vesicular stomatitis virus
- e) Proteus mirabilis

Answer: c

21) Rheumatoid arthritis mostly occur in individuals carrying

Select one:

- a) HLA-DR4 gene (HLA-human leucocyte antigen)
- b) HLA-DR1 gene
- c) HLA-DR3 gene
- d) HLA-DR2 gene
- e) HLA-DR5 gene

Answer: A

22) A woman who is Rh- has a first child with a man who is Rh+ (heterogeneous). What, if any, are the likely consequences if the woman has a second child with the same man?

Select one:

- a) No problem expected
- b) The second child is at risk to develop myasthenia gravis.
- c) The mother will develop hemolytic anemia.
- d) The second child has at least a 50% chance of developing hemolytic anemia of the newborn.
- e) The second child has 100 % chance of developing hemolytic anemia of the newborn.

Answer: d

23) A serological test that uses red blood cells coated with exogenous antigens to detect patient antibodies against those exogenous antigens is called:

Select one:

- a) latex agglutination.
- b) hemagglutination.
- c) neutralization.
- d) complement fixation.
- e) Direct agglutination

Answer: B

24) Which of the following immune mechanisms is MOST important in Adverse reaction to repeated injections of horse immunoglobulins in large quantities.

Select one:

- a) Delayed type hypersensitivity
- b) Immune complex formation

- c) Cytotoxic/cytolytic antibody reactions
- d) tumor formation
- e) autoimmunity

**Answer: b**

**25) What is the main purpose of an indirect immunofluorescence test?**

**Select one:**

- a) Detect ANA
- b) Detect viral antigen
- c) Detect bacterial antigen
- d) Detect level of antibodies
- e) Detect level of complements

**Answer: D**

**26) A defect in VDJ recombinase system would lead to:**

**Select one:**

- a) Defective antibody production with normal T cell activity
- b) Severe combined immunodeficiency
- c) Hyper IGM syndrome
- d) Defective NK cells
- e) Autoimmunity

**Answer: b**

**27) Case: eczema, low platelets, infection, and malignancy:**

**Select one:**

- a) Digeorge syndrome
- b) Ataxia telangiectasia
- c) SCID

- d) Leukocyte adhesion defect
- e) Wiskott-Aldrich syndrome

**Answer: E**

**28) A molecule that is expressed on tumor cells and on normal tissue from which they arise:**

Select one:

- a) Carcinoembryonic antigen
- b) melanoma antigen
- c) CD20
- d) E6 and E7 proteins
- e) EBNA-1 protein

**Answer: b**

**29) Which of the following best describes the problem in Type I diseases?**

Select one:

- a) Autoimmune response that abnormally stimulates tissue function.
- b) Immune deficiency disease
- c) Autoimmune response that results in tissue destruction
- d) type 2 Hypersensitivity reaction
- e) Immune complex disease

**Answer: C**

**30) When carrier particles are coated with an antigen that is not normally found on them, this is known as:**

Select one:

- a) direct agglutination.
- b) passive agglutination.
- c) reverse passive agglutination.



- d) agglutination inhibition reaction.
- e) complement fixation.

**Answer:B**

**31) In T cell leukemia, a vaccine against which of the following might prove useful:**

Select one:

- a) Epstein-Barr virus
- b) Marek's disease virus
- c) Human HTLV-1
- d) papilloma virus
- e) varicella zoster virus.

**Answer: c**

**32) what is serum in a blood sample?**

Select one:

- a) Fluid part of blood with fibrinogen
- b) Fluid part of blood without fibrinogen
- c) Fluid part of blood With RBC
- d) Fluid pan of blood With metabolites
- e) Fluid part of blood with radicals

**Answer:B**

**33) A patient had a marrow transplant. After 2 to 3 days , he developed diarrhea and symptoms related to the skin and liver . What type of reaction is this?**

Select one:

- a) graft versus host disease
- b) immune suppression
- c) hemolysis
- d) hypersensitivity reaction

e) allergy

**Answer:A**

**34) The inappropriate response of immune system towards a relatively harmless foreign antigen causing harm to the host is referred as**

Select one:

- a) Hypersensitivity
- b) auto-immune diseases
- c) immunodeficiency
- d) tolerance
- e) immune surveillance

**Answer:A**

**35) Someone deficient in MHC class I expression in the thymus would also expected to be deficient in which of the following?**

Select one:

- a) CD4+T cell development.
- b) CD8+T cell development.
- c) B cell responses.
- d) gamma delta T cell development.
- e) Antibodies

**Answer:B**

**36) Which of the following molecules secreted by Mast cells are lipid metabolites and increase vascular permeability?**

Select one:

- a) Histamine.
- b) heparin.
- c) Leukotrienes.

- d) Tryptase
- e) Proteoglycans

**Answer:C**

**37) Promotes IgE synthesis**

**Select one:**

- a) IL-4
- b) IL-10
- c) Interferon-gamma
- d) IL-2
- e) Tumor necrosis factor beta

**Answer:A**

**38) CTLA-4 gene mutation leads to**

**Select one:**

- a) Hypersensitivity
- b) auto-immune diseases
- c) immunodeficiency
- d) tolerance
- e) immune surveillance

**Answer:B**

**39) Which of the following cytokines is associated with inducing fever?**

**Select one:**

- a) IL-1
- b) IL-2
- c) IL-5
- d) IL-10

e) IL-5

**Answer:A**

**40) Affinity maturation of an antibody involves which of the following molecular events? غير مطلوب**

Select one:

- a) Recognition of recombination Signal sequences by the RAG recombinase.
- b) Deamination of cytosines by activation induced deaminase(AID).
- c) Hyper-mutation of the framework regions.
- d) Switching from making lambda light chains to kappa light chains.
- e) switching between antibodies subclasses

**Answer:**

**41) All of the following are typical granulomatous reaction EXCEPT:**

:Select one

- a) Reaction to persistent antigens
- b) Presence of CD4+ T lymphocytes
- c) Multinucleate giant cells
- d) Epithelioid cells
- e) Large numbers of plasma cells

**Answer:E**

**42) A patient presents tor a follow-up visit after a diagnosis of systemic lupus erythematosus (SLE). Which of the following is the most likely?**

Select one:

- a) C4 gene mutation
- b) C5-C9 deficiency
- c) Early neutrophils deficiency
- d) Hyper IgM syndrome (HIM)

e) Selective IgA deficiency

**Answer:A**

43) Which of the following is only used in the classical complement pathway? Select one:

- a) C1
- b) C5
- c) C7
- d) C9
- e) C3

**Answer: A**

44) Organ transplantation performed between two twin brothers is called:

Select one:

- a) Isograft
- b) Xenograft
- c) Autograft
- d) Allograft
- e) Fetograft

**Answer: A**

45) Which ELISA test is used to detect anti-HIV in a patient's serum?

Select one:

- a) Direct
- b) Indirect
- c) Sandwich
- d) Stable
- e) Unstable

**Answer:B**

**46) Anti-idiotypic vaccine:**

**Select one:**

- a) Passive therapy
- b) active immunity
- c) live attenuated vaccine
- d) inactivated vaccine
- e) DNA vaccine

**Answer:B**

**47) In HCG latex agglutination test**

**Select one:**

- a) The antigen (HCG) is a natural particle
- b) Antigen (HCG) molecules are artificially bound to particles.
- c) Antibody (anti-HCG) is attached to particles.
- d) The antigen-antibody reaction is competitive (no agglutination indicates a positive result).
- e) Direct agglutination

**Answer:D**

**48) Hashimoto's thyroiditis has a genetic association With the HLA allele DR5.**

**TO which major histocompatibility class does this allele belong? Select one.**

- a) Class I
- b) Class II
- c) Class III
- d) Class IV
- e) Class 5

**Answer:B**



49) Which cell produces IL-12?

Select one:

- a) Macrophages
- b) Eosinophil
- c) Neutrophil
- d) Mast cell
- e) B Cell

Answer:A

50) Which of the following diseases occurs with the absence of a thymus?

Select one:

- a) Severe combined immunodeficiency disease (SCID)
- b) Chronic granulomatous disease (CGD)
- c) Bare lymphocyte syndrome (BLS)
- d) Wiskott Aldrich syndrome (WAS)
- e) Digeorge syndrome

Answer:E

51) Which of the following is used to separate proteins in patients blood?

Select one:

- a) (Enzyme-linked immunosorbent assay)
- b) Fluorescent antibody (fluorochromes)
- c) FACS (fluorescence-activated cell sorting)
- d) Flwocytometer
- e) Electrophoresis

Answer:E

52) Which of the following is NOT true about live vaccines? Select one:

- a) They activate both humoral and cell mediated immunity
- b) They activate just cell mediated immunity
- c) They are better against viruses
- d) better than killed vaccine
- e) can be freezed

**Answer:B**

**53) What is the pattern of staining on a renal biopsy for Goodpasture Syndrome?**

Select one:

- a) Linear
- b) Globular
- c) Zigzag
- d) Granular
- e) Circular

**Answer:A**

**54) All of the following are true about delayed-type hypersensitivity Except**

Select one:

- a) is mediated by T lymphocytes.
- b) includes contact sensitivity
- c) includes the tuberculin reaction.
- d) includes penicillin allergy
- e) includes granuloma formation

**Answer:D**

**55) Activate immune action against worms**

Select one:

- a) IL-5
- b) IL-10

- c) Interferon-gamma
- d) IL-2
- e) Tumor necrosis factor beta

**Answer: A**

**56) Anti- fever Aspirin inhibits Select one:**

- a) IL-1 and TNF
- b) IL-2 and TNF
- c) IL-8 and IL-1
- d) T cells
- e) B Cells

**Answer: A**

**57) In which stage of T cell development commitment to gamma delta lineage occurs:** غير مطلوب

Select one:

- a) Double positive
- b) Double negative stage
- c) Single positive
- d) Pre-T cell
- e) Mature T cell

**Answer: D**

**58) Hemolytic disease of the newborn due to RhD incompatibility depends the. \_**

Select one:

- a) trans placental passage of anti-RhD IgG antibodies.
- b) trans placental passage of anti-RhD IgM antibodies
- c) production of cytotoxic antibodies by the baby
- d) The first pregnancy of the RhD+mother with RhD-fetus

e) Transplacental passage of anti-RhD IgA antibodies

**Answer: A**

59) The direct Coombs' test is designed to detect when people have a disease that causes them to

Select one:

- a) have an excessively high fever.
- b) quit making antibodies.
- c) make too many red blood cells.
- d) produce antibodies that bind to their own red blood cells
- e) have tumor markers

**Answer: D**

60) In MS, we have CD4+ involvement; which one is expected:

Select one:

- a) IL-2, IL-4, IF-gamma
- b) TGF-B
- c) TNF alpha
- d) IL-4, IL-5
- e) IL-10

**Answer: C**

61) A transfusion reaction due to being given the wrong blood type is which of the following types of hypersensitivity reactions?

Select one:

- a) Type I hypersensitivity.
- b) Type II hypersensitivity.
- c) Type III hypersensitivity.
- d) Type IV hypersensitivity.

e) Type 5 hypersensitivity.

**Answer: B**

62) Serum from an AB, Rh negative patient mixed with red blood cells from a patient with \_\_\_\_\_ and result in \_\_\_\_\_ ?

Select one:

- a) Type A, no agglutination
- b) Type B, agglutination
- c) Type O, agglutination
- d) Type AB, agglutination
- e) Type A, agglutination

**Answer: A**

63) Cytokines produced by TH1 are \_\_\_\_\_ and cytokines produced by TH2 are \_\_\_\_\_

Select one:

- a) IFN-gamma and tumor necrosis factor, IL-4 and IL-5
- b) IL-4 and IL-5; IFN-gamma and tumor necrosis factor
- c) IFN-gamma and IL-4; Tumor necrosis factor and IL-5
- d) Tumor necrosis factor and IL-5; IFN-gamma and IL-4
- e) IFN-gamma and IL-5; Tumor necrosis factor and IL-4

**Answer: A**

64) Which of the following are type 3 and 4 hypersensitivity reaction?

Select one:

- a) hashimoto thyroiditis
- b) rheumatoid arthritis
- c) systemic lupus
- d) type 1 diabetes

e) Acute transplant rejection

**Answer: B**

65) Low IgG and IgA, high IgM [Hyper-IgM syndrome]:

Select one:

- a) CD40 ligand mutation
- b) MHC1 gene mutation
- c) FasL mutation
- d) Fas mutation
- e) MHC2 gene mutation

**Answer: A**

66) Which of the following is used in typing of micro-organisms as pneumococci

Select one:

- a) Hemagglutination
- b) Passive agglutination
- c) Reverse passive agglutination
- d) Direct Agglutination
- e) Latex agglutination

**Answer: D**

67) The proliferation, is caused by a critical signal (along with TCR signal transduction) from \_\_\_\_\_ on the B cell and \_\_\_\_\_ on T cell

Select one:

- a) CD40L; CD40
- b) CD2; 87
- c) CD40; CD40L
- d) CD80; CD28
- e) CD3; CD4

**Answer: C**

**68) DNA is detected by:**

Select one:

- a) Southern blot
- b) western blot
- c) Eastern blot
- d) Rapid blot
- e) Northern blot

**Answer: A**

**69) All of the following complement proteins and cells participate in the clearance of immune complexes EXCEPT:**

Select one:

- a) C3b
- b) CR1
- c) CR2
- d) Red blood cells
- e) Liver macrophages (Kupffer cells)

**Answer: C**

**70) In Di George syndrome, the most affected part of the lymph node is: Select one:**

- a) Cortex
- b) Follicle
- c) Capsule
- d) Paracortex
- e) Medulla

**Answer: D**

**71) Case: a patient with various lung symptoms and has anti-glomeruli basement membrane antibodies:**

**Select one:**

- a) Graves disease
- b) pemphigus disease
- c) Rheumatoid arthritis
- d) Goodpasture syndrome
- e) chronic granulomatous disease

**Answer: D**

**72) Which of the following autoimmune diseases triggered by UV light Select on:**

- a) hashimoto thyroiditis
- b) rheumatoid arthritis
- c) systemic lupus
- d) ankylosing spondylitis
- e) Addison's disease

**Answer: C**

**73) In transplantation, a recipient antibody cross-match to donor RBC is performed to avoid:**

**Select one:**

- a) Chronic rejection
- b) Hyperacute rejection
- c) Acute rejection
- d) Viral infection
- e) Secondary rejection

**Answer: B**



74) IFN-gamma stimulates \_\_\_\_\_ immunity by enhancing \_\_\_\_\_ cells and firstly induce T cells a. IL-4/IL-5 stimulate \_\_\_\_\_ immunity (antibodies) by activating B cells and firstly induce \_\_\_\_\_ production

Select one:

- a) Cell-mediated; CD8+; Humoral; IgD
- b) Cell-mediated; CD4+; Humoral; IgE
- c) Cell-mediated; CD8+; Humoral; IgM
- d) Cell-mediated; CD4+; Humoral; IgM
- e) Humoral; CD8+; Cell-mediated; IgE

Answer: C

75) The Ouchterlony method of immunodiffusion analysis: which one is true Select one:

- a) Is used to detect one antigen
- b) Can directly compare the antigenic relatedness of two antigens
- c) Is a standard quantitative assay
- d) Requires use of radioactive antibodies
- e) Measures only autoantibodies

Answer: C

76) Which of the following is live vaccines Select one:

- a) polio (given by injection),
- b) Hep. A
- c) rabies viruses.
- d) Pertussis
- e) TB

Answer: E

77) A patient presents With TH and Tc cells are unable to develop. Which of the following is the most likely?

Select one:

- a) Leukocyte adhesion deficiency (LAD)
- b) Chediak-Higashi disorder
- c) Bare lymphocyte syndrome (BLS)
- d) Wiskott-Aldrich syndrome (WAS)
- e) Chronic granulomatous disease (CGD)

Answer: C

78) Global T cell growth Factor

Select one:

- a) IL-4
- b) IL-10
- c) Interferon-gamma
- d) IL-2
- e) Tumor necrosis factor beta

Answer: D

79) In rheumatoid factor latex agglutination test

Select one:

- a) The antigen (rheumatoid factor) is a natural particle
- b) Antigen (rheumatoid factor) molecules are artificially bound to particles
- c) Antibody (anti-rheumatoid factor) is attached to particles.
- d) The antigen-antibody reaction is competitive (no agglutination indicates a positive result).
- e) It is Direct agglutination

Answer: A

80) Toxic shock syndrome in superantigen effect is mediated by cytokines secreted from \_\_\_\_\_ cells

Select one:

- a) B
- b) T
- c) Mast cells
- d) Neutrophils
- e) DCs

**Answer: B**

81)in CRP latex agglutination test

Select one

- a we test the presence of CRP in patient
- b. we test the presence of anti-CRP in patient
- c it is direct agglutination
- d the antigen (CRP) is fixed on latex
- e The antigen (CRP) is a natural particle

**Answer: B**

82) Wasserman reaction is:

Select one

- a Tube flocculation test
- b Complement fixation
- c Slide agglutination test
- d Immunoassay
- e Precipitation reaction

**Answer: B**

83) If adenosine deaminase deficiency occurs, which of the following is true? Select one:

- a. T cells will be absent but B and NK cells will be present
- b. T and B cells will be absent but NK cells will be present
- c. B cells will be absent but T and NK cells will be present
- d. B and NK cells will be present but T cells will be absent
- e. B, T, and NK cells will be absent

Answer: E

84) Granzyme is all except

Select one:

- a. Produced by CD8 Cells
- b. Produced by NK cells
- c. Used by CD8 cells to kill pathogen directly
- d. Used by CD8 cells to kill infected cell directly
- e. Activate apoptosis inside the target

Answer: C

85) A 54 year old male developed a brain tumor which was diagnosed as an astrocytoma. Immunohistochemical stains showed positive IDH staining implying a mutation in IDH. Through which of the following mechanisms this mutation resulted in cancer?

Select one

- a. increased micro RNAs
- b. oncogene amplification.
- c. tumor suppressor gene downregulation.
- d. epigenetic change
- e. Impairing DNA repair mechanism

**Answer: D**

**86) Which of the following diseases affect neutrophils?**

Select one:

- a. Severe combined immunodeficiency disease (SCID)
- b Chronic granulomatous disease (CGD)
- c Bare lymphocyte syndrome (BLS)
- d Wiskott Aldrich syndrome (WAS)
- e DiGeorge's syndrome

**Answer: B**

**87) Which of the following s used to Identify autoantibodies as ANA?**

Select one

- A ELISA (Enzyme inked immunosorbent assay)
- b fluorescent microscope
- c confocal microscope
- d Western blotting (mnunoblotting)
- e flow cytometer

**Answer: B**

**89) Serum from an A, Rh negative patient mixed with red blood cells from a patient with.. and results in ..?**

- A.Type A, no agglutination
- B.Type B, no agglutination
- C.Type O, agglutination
- D.Type AB, no agglutination
- E.Type A, agglutination

**Answer: A**

90) Superantigens such as staphylococcal enterotoxins bind to certain TCR chains and to molecules

Select one:

- a. Alpha, MHC 1
- b. Beta, MHC2
- c Delta MHC1 OF
- d. Gamma MHC1
- e. Alpha, MHC

Answer: B

91) The immune technique in TAPH test for syphilis

Select one

- a uchterlony double diftusion
- b. Radial immunodiftusion
- c Passive heamagglutination
- d passive coaggutation
- e Direct Comb's test

Answer: C

92) Polio vaccines given by injection are examples of

Select one

- a Killed vaCcines
- B Live attenuated vaccine O
- c Supunit vaccine O
- d Anti-idiotypic vaccine
- e Toxoids

Answer: A

93) Used for detecting antibodies in recipient against donor HLA:

Select one:

- a. lymphocytotoxicity assay
- b. HLA matching
- C. Mixed lymphocyte reaction
- d. Panel reactive antibody
- e. Blood grouping

**Answer: A**

94) Antigen-antibody precipitation is maximally seen in which of the following?

Select one:

- a. Excess of antibody
- b. Excess of antigen
- C. Equivalence of antibody and antigen
- d. Antigen-Hapten interaction
- e. excess of both antigen and antibody

**Answer: C**

95) Which of the following is not live vaccines

Select one :

- a oral Polovirus
- b. Measles mumpis, rubella (MMRI
- c. hepatitis A
- d. TB
- e. Influenza IM injection

**Answer: E**

96) Which virus infection is associated with Burkitt's lymphoma?

Select one:

- a. EBV

- b. Human papilloma virus
- C. Hepatitis B
- d. Herpesvirus
- e HTLV-1

**Answer: A**

97) Where does affinity maturation occur? غير مطلوب

Select one:

- a. Paracortex of lymphoid tissue
- b. Cortex of lymphoid tissue
- C. Germinal center of lymphoid tissue
- d. Follicular dendritic cells
- e. Plasma cells

**Answer: C**

98) What is plasma in a blood sample?

Select one:

- a. Fluid part of blood with fibrinogen
- b. Fluid part of blood without fibrinogen
- c. Fluid part of blood with RBC
- d. Fluid part of blood with metabolites
- e. Fluid part of blood with radicals

**Answer: A**

99) A patient presents with complaints of dark urine in the morning that clears up partially during the day. Lab work reveals hemolytic anemia, Which of the following is the most likely?

Select one:

- a. Transient hypogammaglobulinemia of infancy



- b. Wiscott-Aldrich syndrome (WAS)
- c. Selective IgA deficiency
- d. Paroxysmal nocturnal hemoglobinuria (PNH)
- e. Chediak-Higashi disorder

**Answer: D**

**100) Anti-CD20 used**

Select one:

- a. in Hypersensitivity reaction
- b. in Autoimmunity
- C. in Immune deficiency
- d. to Activate B cell
- e. to Activate T cell

**Answer: B**

**101) Which combinations of cytokines most influence whether a CD4+ T cell becomes a TH1 or TH2? Select one:**

- a. IL-4 and IL-5.
- b. IL-8 and IFN-gamma.
- C. IL-4 and IL-12.
- d. IL-17 and IFN-beta
- e. IL-2 and IL-5

**Answer: C**

**102) An infant presents with recurrent bacterial infections and partial albinism. Which of the following is the most likely?**

Select one:

- a Chediak-Higashi disorder
- b. Chronic granulomatous disease (CGD)

- c. Bare lymphocyte syndrome (BLS)
- d. Myeloperoxidase deficiency
- e. DiGeorge's syndrome

**Answer: A**

**103) Regarding Cytokines, which of the following is true**

Select one

- a. Are large, high molecular weight proteins
- b. Are produced only by lymphocytes and macrophages
- c. can act on just one cell type
- d. Each have distinctive biological activities that do not overlap with those of other cytokines.
- e. Can act in an endocrine, paracrine, or autocrine fashion

**Answer: E**

**104) Which virus infection is associated with Burkitt's lymphoma?**

Select one:

- A. EBV
- b. Human papilloma virus
- c. Hepatitis B
- d. Herpesvirus
- e. HTLV-1

**Answer: A**

**105) If an Ouchterlony immunodiffusion pattern shows an arc equidistant between antigens A and B, this indicates that the antigens**

Select one

- A. are identical.
- b. are entirely different.

- C. share a common epitope, with A being a more complex antigen.
- d. share a common epitope, with B being a more complex antigen.
- E. Partial identical

**Answer : A**

**106) Each of the following represent pairs of molecules (the first from the antigen presenting cell and the other from the T cell) that interact during antigen presentation EXCEPT**

Select one:

- A. DC-SIGN and ICAM-3
- b. CD26 and B7
- C ICAM-1 and LFA-1
- d. Class II MHC and CD4
- e CD40 and CD40L

**Answer: B**

**107) The RAST measures:**

Select one:

- a. Antigen concentration.
- b. IgE antibodies.
- C. IgM antibodies.
- d. Agglutination.
- e. IgG antibodies

**Answer: B**

**108) During infection one of the primary functions of IL-10 is to do what? Select one:**

- a. Increase IL-12 production
- b. Attract B cells.
- C. inactivate CD8 cells

d. Inhibit protein synthesis in local cells

e. Attract neutrophils

**Answer: C**

109) in B cell development each B cell will only have one specificity. The underlying mechanism is: غير مطلوب

Select one

a somatic hypermutation

b class switching

c. affinity maturation

d allelic exclusion

e receptor editing

**Answer: D**

110) thrombotic thrombocytopenic purpura is an example of which type of hypersensitivity reaction?

Select one:

a) Type I

b) Type II

c) Type III

d) Type IV

e) Type 5

**Answer: B**

111) Tuberculosis

Select one:

A.Delayed type hypersensitivity

B.Immune complex formation

C. Cytotoxic/cytolytic antibody reactions

D. Anaphylactic reactions

E. Autoimmunity

**Answer: A**

**112) Which of the following tumor antigens is viral protein?**

Select one:

a) Carcinoembryonic antigen

b) CD20

c) CD10

d) E6 and E7 proteins

e) alpha feto-protein

**Answer: D**

**113) What is plasma in a blood sample? Select one:**

a) Fluid part of blood with fibrinogen

b) Fluid part of without fibrinogen

c) Fluid part of with RBC

d) Fluid part of blood with metabolites

e) Fluid part of blood with radicals

**Answer: A**

**114) Autosomal recessive SCID can occur due to**

Select one:

a) the absence of an enzyme adenosine deaminase

b) Defective pre-TCR/TCR signaling

c) Defective signaling through the common gamma-chain-dependent cytokine receptors IL-7

d) Defective signaling through the common alpha-chain-dependent cytokine receptors IL-7

e) the absence of an enzyme thymidine deaminase

**Answer: D**

**115) In delayed type hypersensitivity: which one is true**

Select one:

a) Release of interferon gamma and other factors leads to macrophage activation

b) CD4+ Th2 cells are principal lymphocytes involved

c) The reaction is maximal 2 to 6 hours after first antigen exposure

d) involve antibodies in the reaction

e) High reactivity in a mixed leukocyte culture would provide evidence that the transplant donor and recipient are good match

**Answer: A**

**116) Expression of I-selectin is \_\_\_\_\_ for naïve T cells, and \_\_\_\_\_ for effector T cells.**

Select one:

a) High; Low

b) Low; High

c) Variable; High

d) Variable; Low

e) High; Variable

**Answer: A**

**117) DiGeorge Syndrome is associated with: Select one:**

a) A low risk of infections and auto-immune disorders.

b) An absence of B cells, normal T cell function.

c) deletion defect in chromosome 22.

d) Normal serum calcium and normal parathyroid

e) A large thymus

**Answer: C**

**118) Which of the following uses ultraviolet light for examining specimens ? Select one:**

- a) ELISA
- b) Western blot
- c) Fluorescent microscope
- d) Western blotting (immunoblotting)
- e) Flow cytometer

**Answer: C**

**119) Case-. pain in the hand and the wrist + ESR (high) + CRP (high) + Rheumatic factor; what's the antibody involved in the pathogenesis of the disease?**

select one:

- a) anti-nuclear antigen
- b) IgM anti-IgG
- c) IGM anti IGE
- d) IGM anti IGD
- e) Anti-stryptolysin

**Answer: B**

**120) immunodeficiency case with absence of T and B cells and presence of NK , the case is**

Select one:

- a) ADA (adenosine deaminase) or PNP (purine nucleoside phosphorylase) deficiency
- b) defective signaling through the common  $\gamma$ -chain-dependent cytokine
- c) Defective V(D)J recombination
- d) Defective pre-TCR/TCR

e) Reticular dysgenesis (most severe)

**Answer: C**

**121) A young child presents with severe periodontitis; History reveals recurrent pyogenic infections. Which of the following is the most likely?**

Select one:

- a) C3 deficiency
- b) Leukocyte adhesion deficiency (LAO)
- c) Wiscott-Aldrich syndrome (WAS)
- d) Hyper IgM syndrome (HIM)
- e) Selective IgA deficiency

**Answer: B**

**122) The immune response to lepromatous leprosy is skewed toward the production of which cytokines:**

Select one:

- a) IL-2 and TNF-alpha
- b) IL-4 and IL-10
- c) IL-6 and IL-12
- d) IL-2 and IFN-gamma
- e) IL-5 and TNF

**Answer: B**

**123) A mutation in the genes encoding the enzyme Bruton's tyrosine kinase (Btk) would lead to which of the following**

Select one:

- a) Human immuno-deficiency virus (HIV) infection
- b) Acquired immune deficiency syndrome (AIDS)
- c) Severe combined immunodeficiency (SCID) syndrome



d) Systemic inflammatory response syndrome (SIRS, sepsis)

e) X-linked agammaglobulinemia

**Answer: E**

124) Cytokine interleukin-7 is a hematopoietic growth factor capable of stimulating the proliferation of lymphoid \_\_\_\_\_. It \_\_\_\_\_ affected by X-linked SCID.

Select one:

a) Hematopoietic stem cells (HSCs); Is

b) Progenitor (precursor) cells (Pro- B and Pro- t cells); Is

c) Mature cells; Is

d) Hematopoietic stem cells (HSCs); Is not

e) Progenitor (precursor) cells; Is not

**Answer: A**

125) All the following are agglutination reactions except

Select one:

a) Widal test

b) Brucella test

c) Wasserman reaction

d) Indirect coomb's

e) Direct Coomb's

**Answer: C**

126) Lysis of sheep red blood cells indicates

Select one:

a) the patient has the antibody being tested for

b) presence of antigen in patient

c) presence of clotting factors in patient

d) presence of complement proteins in the patient

e) the patient don not has the antibody(negative)

**Answer: E**

127) In agglutination reactions, the antigen is a \_\_\_\_\_ and in precipitation reactions, the antigen is a \_\_\_\_\_

Select one:

- a) Bound to cell/soluble molecule
- b) Soluble molecule/bound to cell
- c) Bacterium/virus
- d) Protein/carbohydrate
- e) Virus/bacterium

**Answer: A**

128 Regarding Cytokines, which of the following is true

Select one:

- a) Are large, high molecular weight proteins
- b) Are produced only by lymphocytes and macrophages
- c) can act on just one cell type
- d) Each have distinctive biological activities that do not overlap with those of other cytokines
- e) Can act in an endocrines. paracrine, Or autocrine fashion

**Answer: E**

129) Where in the thymus Would you most likely find Single positive T cells? Select One: غير مطلوب

- a) Cortical region
- b) Medullary region
- c) Germinal center
- d) Corpuscle

e) Follicle

**Answer: B**

**130)Tolerance is induced by: Select one:**

- a) Loss of fas expression
- b) Loss of fasL expression
- c) AIRE gene mutation
- d) C4 gene mutation
- e) Soluble CTLA-4

**Answer: E**

**131)Person had a rare pan-T-cell deficiency. In the flowcytometer machine, which cell marker will be the least in number?**

- a. CD8
- b. CD4
- C. CD3
- d. CD10
- e.CD20

**Answer: C**

**132)Each of the following represent pairs of molecules (the first from the antigen presenting cell and the other from the T cell) that interact during antigen presentation EXCEPT :**

- a DC-SIGN and ICAM-3
- b CD28 and B7
- c ICAM -1 and LFA-1
- d. Class I | MHC and CD4
- e. CD40 and CD40L

**Answer: E**

133) All the following are agglutination reactions except :

- a. Widal test
- b. Brucella test
- c. Wasserman reaction
- d. Indirect coomb's
- e. Direct Coomb's

Answer: C

134) Which association is false:

- a. TH2 cell and IL-6
- b. TH1 Cell and IL-10
- c. TH1 cell and IFN gamma
- d. DC and IL-12
- e. TH2 and IL-4

Answer: B

135) Which of the following immune mechanisms is MOST important in Graves disease :

- a. Delayed type hypersensitivity
- b. Immune complex formation
- c. Cytotoxic T cell reactions
- d. inactivation due to antibody binding
- e. long activation due to antibody binding

Answer: E

136) Which one of the following autoimmune diseases is not a type iv hypersensitivity:

- a. Type 1 diabetes
- b. Hashimoto thyroiditis

- C. Multiple Sclerosis
- D. Systemic Lupus Erythematosis
- e. Rheumatoid arthritis

**Answer: D**

**137)The affinity of an antibody can be determined by:**

- a. ELISA (Enzyme-linked immunosorbent assay)
- b. Fluorescent antibody (nuorochromes)
- C. FACS (fluorescence-activated cell sorting)
- d. Westerm blotting (immunoblotting)
- e. surface plasmon resonance

**Answer: E**

**138)A 20 year old woman develops a red rash over her nose and cheeks after bnef sun exposure A Screening test indicates that she has an autoimmune disease. Which of the following antibodies is MOST LIKELY to be present:**

- a. Anti-centromere
- b. Anti-basement membrane III
- C. Anti-igG
- d. Anti-HLA DR4
- e. Anti-HLA DR3

**Answer: E**

**139)Transplantation between individuals of same species:**

- a. Xenogenic
- b. Autogenic
- c. Isogenic
- d. Allogenic
- e. fetogenic

**Answer: D**

**140)The immune response to lepromatous leprosy is skewed toward the production of which cytokines:**

- a. IL-2 and TNE alpha
- b. IL-4 and IL-10
- c. IL-S and IL 12
- d. IL-2 and IFN gamma
- e. IL-5 and TNF

**Answer: B**

**141)During infection one of the primary functions of IL-10 is to do what:**

- a. Increase IL-12 production
- b. Attract B cells
- c. inactivate CD8 cells
- d. Inhibit protein synthesis in local cells
- e. Attract neutrophils

**Answer: C**

**141)Corticosteroids blocks:**

- a. IL-2
- b. IL-4
- c. IL-5
- d. IL-7
- e. TNF

**Answer : E**

**142)Autosomal recessive SCID can occur due to:**

- 1. Defective signaling through the common gamma-chain-dependent cytokine receptors IL-7

2. the absence of an enzyme adenosine deaminase
3. Defective signaling through the common alpha-chain-dependent cytokine receptors IL-7
4. Defective pre-TCR/TCR signaling
5. The absence of an enzyme thymidine deaminase

**Answer: 3**

**143)Wasserman reaction is:**

1. Tube flocculation test
2. Complement fixation
3. Slide agglutination test
4. Immunoassay
5. Precipitation reaction

**Answer: 2**

**144)A young child presents with severe periodontitis. History reveals recurrent pyogenic infections Which of the following is the most likely:**

1. C3 deficiency
2. Leukocyte adhesion deficiency (LAD)
3. Wiscott-Aldrich syndrome (WAS)
4. Hyper IgM syndrome (HIM)
5. Selective IgA deficiency

**Answer: 2**

**145)Where in the thymus would you most likely find single positive T cell5:**

1. Cortical region
2. Medullary region.
3. Germinal center

4. corpuscle.
5. Follicle

**Answer: 2**

**146) Granzyme is all except :**

1. Produced by CD8 Cells
2. Produced by NK cells
3. Used by CD8 cells to kill pathogen directly
4. Used by CD8 cells to kill infected cell directly
5. 5. Activate apoptosis inside the target

**Answer: 3**

**147) The RAST measures :**

1. Antigen concentration.
2. IgE antibodies.
3. IgM antibodies.
4. Agglutination
5. IgG antibodies

**Answer: 2**

**148) Which of the following is used to identify the detailed structure of the cell or tissue :**

1. ELISA (Enzyme-linked immunosorbent assay)
2. Fluorescent microscope
3. confocal microscope
4. Western blotting (immunoblotting)
5. flow cytometer

**Answer: 3**

**149) Antibody titer refers to the:**



1. Absolute amount of specific antibody
2. Attinity of specific antibody
3. Avidity of specific antibody
4. Concentration of specific antigen
5. Highest dilution of antibody still able to give a positive result in a test system.

**Answer: 5**

**150)Used for detecting antibodies in recipient against donor HLA :**

1. lymphocytotoxicity assay
2. HLA matching
3. Mixed lymphocyte reaction
4. Panel reactive antibody
5. Blood grouping

**Answer: 1**

**151)Case Pain in the hand and the wrist + ESR (high) + CRP (high) + Rheumatic factor, what's the antibody involved in the pathogenesis of the disease:**

1. anti nuclear antigen
2. IgM anti-IgG
3. IGM anti IGE
4. IGM anti IGD
5. Anti-stryptolysin o

**Answer: 2**

**152)Which of the following is used to identify autoantibodies as ANA :**

1. ELISA (Enzyme-linked immunosorbent assay)
2. Fluorescent microscope
3. confocal microscope
4. Western blotting (immunoblotting)

5. flow cytometer

**Answer: 2**

153)\*Which of the following statements is FALSE regarding Human immunodeficiency Virus (HIV) infection:

1. The chemokine receptors CCR5 and CXCR4 enhance the binding and internalization of HIV by host cells
2. Gp120 is the principle viral receptor involved in the binding of HIV to host cells
3. Gp41 is involved in the internalization of HIV
4. in latently infected cells the viral genome persists for months to years
5. the host produce antibodies against the virus directly after infection

**Answer: 5**

154)The immune technique in TAPH test for syphilis:

1. Ouchterlony double diffusion
2. Radial immunodiffusion
3. Passive heamagglutination
4. passive coagulation
5. Direct Coomb's test

**Answer: 3**

155)Polio vaccines given by injection are examples of:

1. Killed vaccines
2. Live attenuated vaccine
3. Subunit vaccine
4. Ant-idiotype vaccine
5. Toxoid

**Answer : 1**

156)Which virus infection is associated with Burkitt's lymphoma:

- a. EBV
- b. Human papilloma virus
- c. Hepatitis B
- d. Herpesvirus
- e. HTLV-1

**Answer: A**

**157)\* If an Ouchterony immunodiffusion pattern shows an arc equidistant between antigens A and B, this indicates that the antigens :**

- 1. are identical.
- 2. are entirely different
- 3. share a common epitope, with A being a more complex antigen.
- 4. share a common epitope, with B being a more complex antigen.
- 5. Partial identical

**Answer: 1**

**158)A patient presents with complaints of dark urine in the morning that clears up partially during the day. Lab work reveals hemolytic anemia, Which of the following is the most likely:**

- 1. Transient hypogammaglobulinemia of infancy
- 2. Wiscott-Aldrich syndrome (WAS)
- 3. Selective IgA deficiency
- 4. Paroxysmal nocturnal hemoglobinuria (PNH)
- 5. Chediak-Higashi disorder

**Answer: 4**

**159) in CRP latex agglutination test :**

- a. we test the presence of CRP in patient
- b. we test the presence of anti-CRP in patient

- c. It is direct agglutination
- d. the antigen (CRP) is fixed on latex
- e. The antigen (CRP) is a natural particle

**Answer: B**

**160) Which combinations of cytokines most influence whether a CD4+ T cell becomes a TH1 or TH2:**

- a. IL-4 and IL-5
- b. IL-8 and IFN-gamma.
- c. IL-4 and IL-12.
- d. IL-17 and IFN-beta
- e. IL-2 and IL-5

**Answer: C**

**161)\* An infant presents with recurrent bacterial infections and partial albinism. Which of the following is the most likely:**

- a. Chediak-Higashi disorder
- b. Chronic granulomatous disease (CGD)
- c. Bare lymphocyte syndrome (BLS)
- d. Myeloperoxidase deficiency
- e. DiGeorge's syndrome

**Answer: A**

**162) Tuberculosis :**

- a. Delayed type hypersensitivity
- b. Immune complex formation
- c. Cytotoxicolytic antibody reactions
- d. Anaphylactic reactions
- e. autoimmunity

**Answer: A**

163) Which of the following is NOT true regarding type 1 interferon:

- a. Interferon prevents infection spreading from cell to cell
- b. NK cells are activated by Interferon and lyse infected cells
- c. CD8 cells are inactivated
- d. Interferon is attacking viral proteins
- e. Stimulate the expression of IL-12

**Answer: C**

164) immunodeficiency case with absence of T and B cells and presence of NK, the cause is:

- a. ADA (adenosine deaminase) or PNP (purine nucleoside phosphorylase) deficiency
- b. Defective signaling through the common  $\gamma$ -chain-dependent cytokine receptors
- c. Defective V(D)J recombination
- d. Defective pre-TCR/TCR signaling
- e. Reticular dysgenesis (most severe)

**Answer: C**

165) Mast cell lipid metabolites stimulate \_\_\_\_\_ and increase \_\_\_\_\_ of smooth muscle in the gut and bronchi:

- a. Vasoconstriction, Constriction
- b. Vasoconstriction, stability
- c. Vasodilation, Dilation
- d. Vasodilation, stability
- e. Vasodilation, Constriction

**Answer: E**

166) Serum from an A, Rh negative patient mixed with red blood cells from a patient with \_\_\_\_\_ and results in \_\_\_\_\_:

- a. Type A, no agglutination
- b. Type B, no agglutination
- C. Type O, agglutination
- d. Type AB, no agglutination
- e. Type A, agglutination

**Answer: A**

**167)DiGeorge Syndrome is associated with:**

- a. A low risk of infections and auto-immune disorders
- b. An absence of B cells, normal T cell function
- c. deletion defect in chromosome 22
- d. Normal serum calcium and normal parathyroid
- e. A large thymus.

**Answer: C**

**168)Interleukin-4 is associated with which of the following characteristics:**

- a. AT cell growth factor
- b. AB cell growth factor.
- C. Activation of macrophages.
- d. Suppressing TH2 responses.
- e. Activation of Th1 cells

**Answer: B**

**169)\*Which of the following is not live vaccines:**

- a. oral Poliovirus
- b. Measles, mumps, rubella (MMR)
- C. hepatitis A
- d. TB

e. Influenza IM Injection

Answer: e

170)Regulatory T cells are all except :

- a. Are induced by IL-2 and TGF beta
- b. consume complement
- c. . Are only CD4
- d. secreted TGF beta and IL-10
- e. secret Granzyme B

Answer: B

171)\*tolerance is induced by :

- A.loss of fas expression.
- B.loss of fasL expression
- C.AIRE gene mutation
- D.C4 gene mutation
- E.soluble CTLA-4

Answer: E

172)\*Vaccines is considered \_\_\_\_\_ immunotherapy and leads to the development of \_\_\_\_\_ for a long time :

- a. Active, immunologic memory
- b. Active, activated B cells
- C. Passive, Activated T cells
- d. Passive, immunologic memory
- e. Active, Activated Dcs

Answer: A

173) A mutation in the genes encoding the enzyme Bruton's tyrosine kinase (Btk) would lead to which of the following :

- a. Human immuno-deficiency virus (HIV) Infection
- b. Acquired immune deficiency syndrome (AIDS)
- c. Severe combined immunodeficiency (SCID) syndrome
- d. Systemic inflammatory response syndrome (SIRS. sepsis)
- e. X-linked agammaglobulinemia

**Answer: E**

**174)\*Which of the following cytokines is recruiting neutrophils and macrophages to site of infection and induce inflammation:**

- a. Interleukin-2
- b. Interleukin-5
- c. Interleukin-10.
- d. Interteukin-17.
- e. IL-7

**Answer: D**

**\*175)A woman who is Rh+ has a first child with a man who is Rh- What, if any, are the likely consequences if the woman has a second child with the same man:**

- a. No problem expected
- b. The second child is at risk to develop myasthenia gravis.
- c. The mother will develop hemolytic anemia.
- d. The second child has at least a 50% chance of developing hemolytic anemia of the new born.
- e. The second child has 100 % chance of developing hemolytic anemia of the new born.

**Answer: D**

**176)Cytokine interteukin-7 (IL-7) is a hematopoietic growth factor capable of stimulating the proliferation of lymphoid\_\_\_\_\_. It\_\_\_\_\_ affected by X-linked SCID:**

- a. Hematopoietic stem cells (HSCS), Is



- b. Progenitor (precursor) cells (Pro- B and Pro-T cells), Is
- C. Mature cells, Is
- d. Hematopoietic stem cells (HSCS), Is not
- e. Progenitor (precursor) cells; Is not

**Answer: A**

**177)In Anti-streptolysin-o latex agglutination test :**

- a. The antigen (streptolysin-O) is a natural particle.
- b. Antigen molecules (streptolysin-O) are artificially bound to particles
- C. Antibody(anti-streptolysin-O) is attached to particles
- d. The antigen-antibody reaction is competitive (no agglutination indicates a positive result)
- e. Direct agglutination

**Answer: B**

**178)Which of the following tumour antigens is viral protein:**

- a. Carcinoembryonic antigen
- b. CD10
- C. CD20
- d. E6 and E7 proteins
- e. alpha fetoprotein

**Answer: D**

**180)A patient presents in the winter months with swollen airways. Which of the following does this patient have:**

- a. DiGeorge syndrome
- b. Glucose-6-phosphate dehydrogenase deficiency
- c. Hereditary angioedema
- d. Severe combined immunodeficiency disease (SCID)

أَعْلَمُ أَنَّ الطَّرِيقَ صَعْبٌ، لَكِنَّكَ صَاحِبُ قَلْبٍ لَا يَهْزُهُ عَصْفُ رِيحٍ عَاتِيَةٍ،  
آمَنْتَ بِأَنَّ اللَّهَ قَادِرٌ، وَارْتَوَيْتَ بِأَنَّهُ اللّطِيفُ بِكَ، بَقِيَ عَلَيْكَ دَوْرُكَ، لَا  
تَكْسِرُ قَلْبَكَ بِضَعْفِ إِرَادَتِكَ، قُمْ مُؤْمِنًا وَالزَّمْ ثَغْرَكَ  
- قصي العسيلي.

تحية إكبار وإجلال للمحاربين الذين وصلوا إلى هنا ^-^  
بالتوفيق ، ولا تنسوننا من صالح دعائكم .  
#لجنة\_الطب\_والجراحة

# Athar

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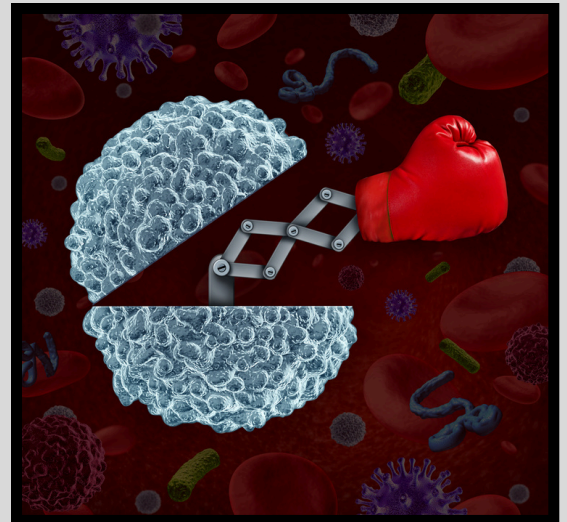
## Immunology Final

### Done By:

Rahaf mohammed  
hadeel albtoush

### Designed By :

Raneem Dmour



1. year old woman develops a red rash over her nose and cheeks after brief sun exposure. A Screening test indicates that she has an autoimmune disease. Which of the following antibodies is MOST LIKELY to be present:

- a. Anti-centromere
- b. Anti-basement membrane III
- c. Anti-igG
- d. Anti-HLA DR4
- e. Anti-HLA DR3

**Answer: E**

2. A child presents with a frequent infection of gram negative bacteria, Which of the following is the most likely?

- a) C3 deficiency
- b) Hereditary angioedema
- c) autoimmune disease
- d) SLE
- e) Selective IgA deficiency

**Answer: A**

3. Which of the following best describes the problem in Type I diseases?

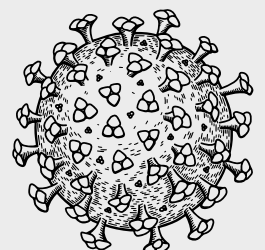
- a) Autoimmune response that abnormally stimulates tissue function.
- b) Immune deficiency disease
- c) Autoimmune response that results in tissue destruction
- d) type 2 Hypersensitivity reaction
- e) Immune complex disease

**Answer: c**

4) Which of the following autoimmune diseases triggered by UV light  
Select on:

- a) hashimoto thyroiditis
- b) rheumatoid arthritis
- c) systemic lupus
- d) ankylosing spondylitis
- e) Addison's disease

**Answer: c**





5) Which one of the following autoimmune diseases is not a type IV hypersensitivity:

- a. Type 1 diabetes
- b. Hashimoto thyroiditis
- c. Multiple Sclerosis
- d. Systemic Lupus Erythematosus
- e. Rheumatoid arthritis

**Answer: D**

6) All of the following are autoimmune disorders except Select one:

- a) Graves disease
- b) SCID
- c) Rheumatoid arthritis
- e) SLE

**Answer: B**

7) Anti-CD20 used Select one:

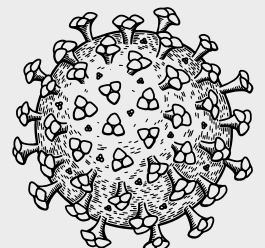
- a. in Hypersensitivity reaction
- b. in Autoimmunity
- c. in Immune deficiency
- d. to Activate B cell
- e. to Activate T cell

**Answer: B**

8) A mutation in the genes encoding the enzyme Bruton's tyrosine kinase (Btk) would lead to which of the following Select one:

- a) Human immuno-deficiency virus (HIV) infection
- b) Acquired immune deficiency syndrome (AIDS)
- c) Severe combined immunodeficiency (SCID) syndrome
- d) Systemic inflammatory response syndrome (SIRS, sepsis)
- e) X-linked agammaglobulinemia

**Answer: E**



9. Why is it used Rho Gram?

- A) treatment of RH-D antibodies against fetus from mothers
- B) treatment of TB antibodies
- C) treatment of ADIS antibodies

**Answer: A**

10. When to use the pneumococcal vaccine ?

- a. when we have spleen injury
- b. when we have heart injury
- c. when we have liver injury
- d. when we have stomach injury

**Answer: A**

11. Window of HIV???

**for diagnosis of Anti-HIV antibodies**

12. Acute rejection?

- a) Type 1 hypersensitivity
- b) Type 2
- c) type 3
- d) type 4
- e) type 4 and 1

**Answer: D**

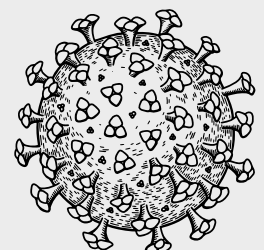
13. IL-10 is produced by

- a) TH2
- b) TH1
- c) IL-5

**Answer: A**

14. MLR related to ??

**Detection of DNA synthesis**



15. Which is incorrect about HIV binding?

- a) Primarily binds to CD4+
- b) Co-receptors are chemokines
- c) Co-receptors are CD4+
- d) Gp120 binds to CD4 and chemokine receptors
- e) Gp41 binds to the membrane envelope

**Answer: C**

16. B cell proliferation is caused by IL-4, 5, and 2. What type of cytokine reaction is this?

- a. Redundant
- b. Pleiotropic
- c. Synergy
- d. Antagonist

**Answer: C**

17. The RAST measures : select one?

- a) Antigen concentration
- b) IgE antibodies
- c) IgM antibodies
- d) IgG antibodies

**Answer: B**

18. what vaccine is used to treat spleen injury?

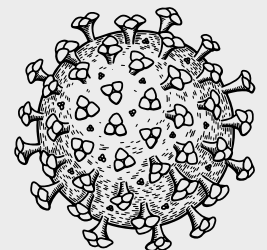
- a. Measles
- b. rubella
- c. tetanus
- d. diphtheria
- e. pneumococcal

**Answer: E**

19. Who is responsible for paroxysmal nocturnal haemoglobinuria?

- a) CD59
- b) C1INH
- c) C9
- d) C2, C3, C1

**Answer: A**



20. Who is responsible for hereditary angioedema ?

- a) CD59
- b) C1INH
- c) C9
- d) C2, C3, C1

**Answer: B**

21. we use the blood levels of ANA and anti-DS DNA antibody to diagnosis the .....

### **Tissue biopsy**

22. What type of blotting techniques that is use in Northern blotting ??

- a) DNA
- B) RNA
- C) protein

**Answer: B**

23. which is related to Hyper acute rejection?

- a) type 1 hypersensitivity
- b) type 2 hypersensitivity
- c) type 3 hypersensitivity
- d) type 4 hypersensitivity

**Answer: B**

24. Diagnostic test of RF select one?

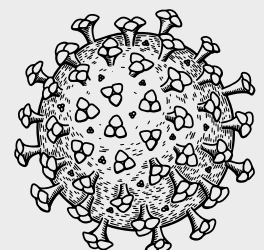
- a. Igm against fc part of IgG
- b. IgA against fc part of IgG
- c. IgE against fc part of IgG

**Answer: A**

25. All of these vaccine are take in the 4 months except??

- a. DaPT3 IPV3
- b. Hib3
- c. HepB3
- d. OPV
- e. hepA

**Answer: E**





26. Which of the following is NOT true regarding type 1 interferon:

- a. Interferon prevents infection spreading from cell to cell
- b. NK cells are activated by Interferon and lyse infected cells
- C. CD8 cells are inactivated
- d. Interferon is attacking viral proteins
- e. Stimulate the expression of IL-12

**Answer: C**

27. All of the following are true about immune-complex mediated type III hypersensitivity except Select one:

- a) immune-complex can formed by serum products.
- b) Tissue damage can be caused by complement activation.
- c) Includes the Arthus reaction.
- d) Requires cytotoxic T cells.
- e) Damage caused by neutrophils and platelets

**Answer: D**

28) A transfusion reaction due to being given the wrong blood type is which of the following types of hypersensitivity reactions?

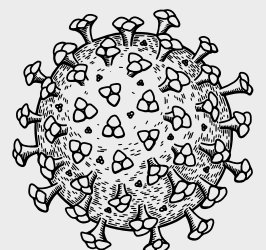
- a) Type I hypersensitivity.
- b) Type II hypersensitivity.
- c) Type III hypersensitivity.
- d) Type IV hypersensitivity.
- e) Type 5 hypersensitivity.

**Answer: B**

29) If adenosine deaminase deficiency occurs, which of the following is true? Select one:

- a. T cells will be absent but B and NK cells will be present
- b. T and B cells will be absent but NK cells will be present
- C. B cells will be absent but T and NK cells will be present
- d. B and NK cells will be present but T cells will be absent
- e. B, T, and NK cells will be absent

**Answer: E**



30 Granzyme is all except Select one:

- a. Produced by CD8 Cells
- b. Produced by NK cells
- c. Used by CD8 cells to kill pathogen directly
- d. Used by CD8 cells to kil infected cell directly
- e. Activate apoptosis inside the target

**Answer: C**

