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DEPARTMENT OF MICROBIOLOGY

B.SC SEM VI PAPER I IMMUNOLOGY MCQS

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1. Which of the following systems protects our body against disease-causing microbes?

(a) Immune system

(b) Digestive system

(c) Excretory system

(d) Respiratory system

Sol: (a) Immune system.

2. Which of the following immunity is present from our birth?

(a) Innate Immunity

(b) Active immunity

(c) Passive immunity

(d) Acquired immunity

Sol: (a) Innate Immunity

3. Neutrophils, basophil, lymphocytes, eosinophil and monocytes are examples of _____.

(a) Physical barrier

(b) Cellular barriers

(c) Cytokine barriers

(d) Physiological barriers

Sol: (b) Cellular barriers.

4. B-cells and T-cells are two types of cells involved in _____.

(a) Innate Immunity

(b) Active immunity

(c) Passive immunity

(d) Acquired immunity

Sol: (d) Acquired immunity.

5. The common disorders caused by a poor immune system include _____

(a) Epidemic Diseases

(b) Deficiency diseases

(c) Autoimmune diseases

(d) None of the above

Sol: (a) Epidemic diseases.

6. Which of the following statements is true about Passive Immunity?

(a) This immunity causes reactions

(b) This immunity develops immediately

(c) This immunity lasts only for a few weeks or months

(d) All of the above.

Sol: (d) All of the above.

7. The branch of biology involved in the study of immune systems in all organisms is called_____.

(a) Botany

(b) Microbiology

(c) Immunology

(d) Biotechnology

Sol: (c) Immunology.

8. Which of the following cells is involved in cell-mediated immunity?

(a) T-cells

(b) B-cells

(c) Mast cells

(d) Both T and B cells

Sol: (a) T-cells.

9. Which of the following conveys the longest-lasting immunity to an infectious agent?

(a) Active immunity

(b) Passive immunity

(c) Both (a) and (b)

(d) None of the above

Sol: (a) Active immunity.

10. Which of the following does not act as a protecting barrier for the body surface?

(a) Skin

(b) Mucus

(c) Gastric acid

(d) Salivary amylase

Sol: (d) Salivary amylase.

11. Which of the following cells is involved in humoral immunity?

(a) T-cells

(b) B-cells

(c) Mast cells

(d) Both T and B cells

Sol: (b) B-cells.

12. Which of the following immunity is obtained during a lifetime?

(a) Innate immunity

(b) Active immunity

(c) Passive immunity

(d) Both (b) and (c)

Sol: (d) Both (b) and (c).

13. Skin, body hair, cilia, eyelashes, the respiratory tract and the gastrointestinal tract are examples of _____.

(a) Physical barrier

(b) Cellular barriers

(c) Cytokine barriers

(d) Physiological barriers

Sol: (a) Physical barrier.

14. Cells Involved In Innate Immunity are_____.

(a) Phagocytes

(b) Macrophages

(c) Natural Killer Cells

(d) All of the above

Sol: (d) All of the above.

15. Which of the following immunity is called the first line of defence?

(a) Innate Immunity

(b) Active immunity

(c) Passive immunity

(d) Acquired immunity

Sol: (a) Innate Immunity.

Question 16 .T lymphocytes

- **a)** Can ingest pathogens and kill them
- **b)** Can recirculate through the blood and lymphoid organs
- **c)** Are short lived
- **d)** Are educated in the bone marrow

Question 17

Which of the following is NOT a secondary lymphoid organ

- **a)** Thymus
- **b)** Spleen
- **c)** Mesenteric lymph node
- **d)** Peyers patch

Question 18

Adhesion molecules can control leucocyte migration by

- **a)** Binding to specific antigen
- **b)** Changing lymphocyte survival
- **c)** Binding to ligands on the vascular endothelium
- **d)** Agglutinating pathogens in the tissues

Question 19 :Which of the following is NOT a part of the lymphatic system?

Possible Answers:

Bone marrow

Liver

Adenoids and tonsils

Thymus and spleen

Correct answer:

Liver

Explanation:

All of the following are parts of the lymphatic system, except the liver. The liver is considered to be primarily a part of the digestive system.

Question 20 : Lymphoid Organs

Which of the following are you most likely to find in the medulla of a lymph node?

Possible Answers:

B-cells

T-cells

Stromal cells

Dendritic cells

Correct answer:

T-cells

Explanation:

In the lymph node, the B-cells are located in the cortex and the T-cells are located in the medulla. The stromal cells are structural cells that are not particular to an area of the lymph node. Dendritic cells will move through the lymph node to present antigens to the adaptive immune system cells.

Example Question 21 : Lymphoid Organs

Which of the following is a primary lymphoid structure?

I. Thymus

II. Spleen

III. Lymph node

Possible Answers:

II and III

I, II, and III

I only

III only

Correct answer:

I only

Explanation:

Primary lymphoid tissues refer to the tissues where lymphoid cells are generated, while secondary lymphoid tissues are the functional organs of the lymphatic system.

Lymphocytes are generated and developed in the bone marrow and thymus only. The spleen and lymph nodes are examples of secondary lymphatic organs.

have an endocrine function. White blood cells are synthesized in bone marrow and mature in the marrow and thymus. Serum proteins are synthesized in the liver.

Example Question 22 : Lymphoid Organs

Which of these is a lymphoid organ that is active in young children, but decreases in size and importance in adulthood?

Possible Answers:

Tonsils

Lymph nodes

Spleen

Thymus

Adenoids

Correct answer:

Thymus

Explanation:

The thymus is a lymphoid organ located in the mediastinal space. The thymus is the site of T-lymphocyte differentiation. The mature T-cells leave the thymus and migrate to the spleen, lymph nodes, and other lymphoid tissues where they control cell-mediated immune responses. The thymus grows from birth to puberty, at which point it begins to shrink. The reason for this involution may be that the organ has produced enough T-cells and is no longer necessary.

The spleen is another lymphocyte-producing organ. The spleen filters blood, exposing it to lymphocytes that destroy foreign particles. The size of the spleen remains constant, except in cases of infections such as mononucleosis. The tonsils are a patch of lymphoid tissue that contain lymphocytes located in the pharynx. The tonsils and adenoids form a ring of immunologically active tissue. These tissues remain at a constant size except when infected by bacteria. Lymph nodes receive lymph from a single organ or region of the body. An increase in size, known as lymphadenopathy, could result from combating infection or cancer.

Example Question 23 : Lymphoid Organs

Which lymphoid organ is the site of erythrocyte, leukocyte, and lymphocyte production?

Possible Answers:

Thymus

Spleen

Lymph nodes

Tonsils

Adenoids

Correct answer:

Spleen

Explanation:

The spleen forms erythrocytes (red blood cells), and leukocytes (white blood cells, including lymphocytes) during the embryonic stage. After birth, only lymphocytes are produced.

The tonsils and adenoids are patches of lymphoid tissue located in the pharynx that filter pathogens that enter the body through the mouth and nose. Lymph nodes produce lymphocytes in response to infections by pathogens. The thymus is an organ that produces lymphocytes in infants and young children.

Example Question 24 : Lymphoid Organs

The surface of which lymphoid organ is covered with stratified squamous epithelium and located at the entrance to the oropharynx?

Possible Answers:

Thymus

Tonsils

Spleen

Lymph nodes

Adenoids

Correct answer:

Tonsils

Explanation:

The surface of each tonsil is covered with stratified squamous epithelium, which forms deep crypts that detect and respond to pathogens entering the body. The tonsils are located on either side of the throat at the back of the tongue.

Adenoids are lymphoid tissue located in the nasopharynx, in the midline at the back of the throat. The spleen is in the upper left quadrant of the abdomen. The spleen has a smooth surface, as it is covered by an outer capsule of connective tissue. The thymus is in the mediastinum between the lungs. The thymus is composed of two lobes containing multiple lobules divided into an outer cortex and an inner medulla. The thymus is the site of T-cell differentiation. Lymph nodes filter lymph and remove foreign particles. Lymph nodes are located throughout the body, and are concentrated in the neck, axilla, and groin.

Example Question 25 : Lymphoid Organs

What lymphoid organ is one of the primary sites of cancer metastasis?

Possible Answers:

Lymph nodes

Thymus

Spleen

Adenoids

Tonsils

Correct answer:

Lymph nodes

Explanation:

Lymph nodes function to drain lymph. As lymph carries interstitial fluid, it also carries pathogens and cancer cells. Malignant cells may spread through the lymphatic circulation.

Tonsils and adenoids are collections of lymphoid tissue in the pharynx that filter microbes that enter through the mouth and nose. They enlarge during infectious processes. The spleen filters blood, exposing it to macrophages and lymphocytes that destroy foreign particles and aged blood cells. The thymus is the primary site for T-cell differentiation. The mature T-cells leave the thymus and travel to the spleen, lymph nodes, and other lymphoid tissue where they control cell-mediated immune responses.

Example Question 26 : Lymphoid Organs

The lymphoid tissues are responsible for creating, storing, and processing lymphocytes, which are essentially the effector cells of the immune system. Which of the following is a lymphoid structure that is also responsible for recycling old red blood cells?

Possible Answers:

Bone marrow

Spleen

Appendix

Thymus

Liver

Correct answer:

Spleen

Explanation:

The spleen is a lymphoid structure that contains resident lymphocytes that produce antiobodies, as well as T-cells that are released into the bloodstream. It also contains resident macrophages, which are responsible for removing and degrading microbes and worn-out red blood cells.

Example Question 27 : Lymphoid Organs

Destruction of the lymph nodes would most likely affect the immune system in which way?

Possible Answers:

Inability to initiate and sustain an inflammatory response at the site of infection

Inability to produce killer T cells

Inability to bind antibodies to an antigen

Inability to carry out a second response to an antigen significantly shorter in duration than the first

Correct answer:

Inability to carry out a second response to an antigen significantly shorter in duration than the first

Explanation:

The secondary response of the immune system is significantly shorter in duration due to the storage of memory cells after the initial infection has been combated. During the primary infection, a B-cell will bind with an antigen. Once this occurs, the B-cells will begin to divide rapidly into plasma cells and memory cells. Plasma cells release high quantities of antibodies, which are integral in combating the infection. Memory cells are stored in lymph nodes so that if the same antigen is ever encountered again, it can be quickly dealt with by a fast-responding production of the correct form of plasma cell. If lymph nodes were destroyed, memory cells would not be able to mount this quick secondary response.

28. Which of the following immunoglobulins makes the largest percentage in breast milk?

(a) IgM

(b) IgD

(c) IgG

(d) IgA

Answer: (d)

29. Transplanted graft may be rejected due to

(a) cell-mediated immune response

(b) humoral immune response

(c) innate immune response

(d) passive response

Answer: (a)

30. Oral polio drops contain

(a) harvested antibodies

(b) activated pathogens

(c) attenuated pathogens

(d) gamma globulins

Answer: (c)

31. Antibodies are

(a) prostaglandins

(b) steroids

(c) lipoproteins

(d) glycoproteins

Answer: (d)

32. Interferons are

(a) antibiotic proteins

(b) antiviral proteins

(c) antigen proteins

(d) all of the above

Answer: (b)

33. Globulins of the blood plasma are responsible for

(a) defence mechanisms

(b) blood clotting

(c) oxygen transport

(d) osmotic balance

Answer: (a)

34. Which of the following antibodies is predominantly present in tears, saliva and mucous

(a) IgM

(b) IgG

(c) IgE

(d) IgA

Answer: (d)

35. The class of antibodies, which can cross placenta is

(a) IgD

(b) IgA

(c) IgG

(d) IGM

Answer: (c)

36. Antigen binding sites are present in

(a) Fab regions of an antibody

(b) F_c region of an antibody

(c) only in the light chain

(d) only in the heavy chain

Answer: (a)

37. Type I hypersensitivity involves

(a) IgD

(b) IgM

(c) IgE

(d) IgG

Answer: (c)

These were some MCQs on Antibodies. Learn MCQs on related topics for NEET, at BYJU'S.

Multiple Choice Questions on Hypersensitivity Reactions

38. Allergy to penicillin is an example of

a) Type I hypersensitivity

b) Type II hypersensitivity

c) Type III hypersensitivity

d) Type IV hypersensitivity

39. Type IV hypersensitivity is also called as

a) immediate hypersensitivity

b) delayed hypersensitivity

c) cytotoxic hypersensitivity

d) immune complex hypersensitivity

40. The most common class of antibody involved in type II hypersensitivity is

a) IgG

b) IgM

c) IgE

d) IgD

41 T helper cell mediated hypersensitivity is

a) Type I hypersensitivity

b) Type II hypersensitivity

c) Type III hypersensitivity

d) Type IV hypersensitivity

42. Type III hypersensitivity is triggered by

a) mast cells and IgE

b) K cells and IgG

c) deposition of antigen antibody complexes

d) Th cells

43. Autoimmune hemolytic anemia (AHA) is an example of

a) Type I hypersensitivity

b) Type II hypersensitivity

c) Type III hypersensitivity

d) Type IV hypersensitivity

44. “Wheal and flare” reaction is characteristic reaction associated with identification of

a) Type I hypersensitivity

b) Type II hypersensitivity

c) Type III hypersensitivity

d) Type IV hypersensitivity

45. K cells and IgG mediated hypersensitivity is

a) Type I hypersensitivity

b) Type II hypersensitivity

c) Type III hypersensitivity

d) Type IV hypersensitivity

46. Antibody dependant cytotoxicity is associated with

a) Type I hypersensitivity

b) Type II hypersensitivity

c) Type III hypersensitivity

d) Type IV hypersensitivity

47. Allergies to sea foods, eggs etc is an example of

a) Type I hypersensitivity

b) Type II hypersensitivity

c) Type III hypersensitivity

d) Type IV hypersensitivity

Answers:

38. a) Type I hypersensitivity

39. b) delayed hypersensitivity

40. a) IgG

41. d) Type IV hypersensitivity

42. c) deposition of antigen antibody complexes

43. b) Type II hypersensitivity

44. a) Type I hypersensitivity

45. b) Type II hypersensitivity

46. b) Type II hypersensitivity

47. a) Type I hypersensitivity

48.. VDRL test is an example of

A. Tube test

B. Ring test

C. Slide test

D. none of these

Answer: Option **C**

49. In which of the following case a large lattice is formed?

A. Antibody is in excess

B. Antigens and antibodies are in optimal proportion

C. Antigen is in excess

D. None of these

Answer: Option **B**

50.Agglutination reaction is more sensitive than precipitation for the detection of

A. antigens

B. antibodies

C. complement

D. antigen-antibody complexes

Answer: Option **A**