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Biology Grade 12 — Chapter 9

Immunity

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Independent practice MCQs from the supplied Class 12 Biology notes pack. Total: 50 questions.

A. Important / Main Topics

1. The body's response to foreign particles, such as the production of antibodies directed against a specific antigen, is called:

(A) Immune response
(B) Digestion
(C) Respiration
(D) Excretion

Correct Answer: A

Explanation: The body's response to foreign particles, such as the production of antibodies directed against a specific antigen, is called an immune response.

2. Immunity is the ability to resist damage from:

(A) Self-cells
(B) Foreign substances such as microorganisms and harmful chemicals
(C) Nutrients
(D) Water

Correct Answer: B

Explanation: Immunity is the ability to resist damage from foreign substances such as microorganisms and harmful chemicals.

3. The study of foreign particles that can affect the living body and the defence mechanisms is called:

(A) Neurology
(B) Pathology
(C) Immunology
(D) Pharmacology

Correct Answer: C

Explanation: Immunology is the study of foreign particles that can affect the living body and the defence mechanisms taken by the body to eliminate these particles.

4. The first line of defence comprises:

(A) Internal barriers
(B) Specific internal defence
(C) Antibodies
(D) External barriers

Correct Answer: D

Explanation: First line of defence comprises external barriers that keep microbes out of the body.

5. The first line of defence includes:

(A) Skin and mucous membranes
(B) Macrophages and neutrophils
(C) T cells and B cells
(D) Antibodies

Correct Answer: A

Explanation: The first line of defence includes Skin and mucous membranes.

6. The second line of defence consists of:

(A) Specific internal defence

(B) Nonspecific internal defence
(C) External barriers
(D) Antibodies

Correct Answer: B

Explanation: Second line of defence consists of nonspecific internal defence that combats all invading microbes.

7. The first line and second line of defence together make:

(A) Acquired immunity
(B) Adaptive immunity
(C) Innate immunity
(D) Specific immunity

Correct Answer: C

Explanation: The first line and second line of defence together make Innate immunity.

8. The third line of defence includes:

(A) Nonspecific internal defence
(B) External barriers
(C) Skin
(D) Specific internal defence

Correct Answer: D

Explanation: Third line of defence includes the specific internal defence also called adaptive/acquired immunity.

9. The skin is made up of two layers: the:

(A) Epidermis and dermis
(B) Cortex and medulla
(C) Mucosa and serosa
(D) Epithelium and endothelium

Correct Answer: A

Explanation: The skin is made up of two layers, i.e., epidermis and dermis.

10. The protein that strengthens skin cells is:

(A) Collagen
(B) Keratin
(C) Elastin
(D) Melanin

Correct Answer: B

Explanation: Most cells of epidermis contain keratin protein that strengthens skin cells, making them resistant to abrasion and water loss.

11. The process of shedding dead skin cells is called:

(A) Keratinization
(B) Melanization
(C) Desquamation
(D) Ossification

Correct Answer: C

Explanation: Desquamation is the process of shedding dead skin cells which helps in removing attached microbes.

12. The glands that produce sebum are the:

(A) Sweat glands
(B) Salivary glands
(C) Endocrine glands
(D) Sebaceous glands

Correct Answer: D

Explanation: The glands that produce sebum are the Sebaceous glands.

13. Phagocytes are white blood cells that destroy abnormal cells or microorganisms by:

(A) Engulfing
(B) Releasing antibodies
(C) Producing hormones
(D) Secreting enzymes

Correct Answer: A

Explanation: A phagocyte is a cell that destroys other abnormal body cells or invaded microorganisms by engulfing.

14. The main types of phagocytic white blood cells are:

(A) T cells, B cells, and macrophages
(B) Macrophages, dendritic cells, and neutrophils
(C) Neutrophils, eosinophils, and basophils
(D) Red blood cells, white blood cells, and platelets

Correct Answer: B

Explanation: Main types of phagocytic white blood cells are macrophages, dendritic cells, and neutrophils.

15. The complement system consists of over:

(A) Ten types of small proteins
(B) Five types of small proteins
(C) Fifty types of small proteins
(D) Hundred types of small proteins

Correct Answer: C

Explanation: The complement system consists of over Fifty types of small proteins.

16. What is the function of sebum?

(A) Increases skin pH
(B) Produces keratin
(C) Produces melanin
(D) Lowers skin pH

Correct Answer: D

Explanation: Sebum contains fatty acids that lower skin pH, inhibiting the growth of many pathogens.

17. What is the function of macrophages?

(A) Engulf and destroy microbes; present antigens
(B) Produce antibodies
(C) Produce hormones
(D) Produce red blood cells

Correct Answer: A

Explanation: Macrophages engulf and destroy microbes and display parts of microbes on their surface as antigen-presenting cells.

18. What is the function of dendritic cells?

(A) Produce antibodies
(B) Activate T cells
(C) Produce hormones
(D) Produce red blood cells

Correct Answer: B

Explanation: The main function of dendritic cells is the activation of T cells.

19. What is the function of neutrophils?

(A) Produce antibodies
(B) Produce hormones
(C) Engulf and destroy microbes; release lysosomal enzymes
(D) Produce red blood cells

Correct Answer: C

Explanation: Engulf and destroy microbes; release lysosomal enzymes — this correctly answers the question.

20. What is the function of the membrane attack complex (MAC)?

(A) Produces antibodies
(B) Produces hormones
(C) Produces red blood cells
(D) Produces holes in bacterial cell walls

Correct Answer: D

Explanation: Produces holes in bacterial cell walls — this correctly answers the question.

21. What is the function of interferons?

(A) Interfere with viral replication
(B) Produce antibodies
(C) Produce hormones
(D) Produce red blood cells

Correct Answer: A

Explanation: Interferons are named for their ability to "interfere" with viral replication.

22. What is the function of histamine in inflammation?

(A) Produces antibodies
(B) Induces vasodilation and leakiness of blood vessels
(C) Produces hormones
(D) Produces red blood cells

Correct Answer: B

Explanation: Induces vasodilation and leakiness of blood vessels — this correctly answers the question.

23. What is the function of pyrogens?

(A) Lower the temperature set point of the hypothalamus
(B) Produce antibodies
(C) Raise the temperature set point of the hypothalamus
(D) Produce hormones

Correct Answer: C

Explanation: Raise the temperature set point of the hypothalamus — this correctly answers the question.

24. What is the function of endogenous pyrogens?

(A) Decrease the temperature set point of the hypothalamus
(B) Produce antibodies
(C) Produce hormones
(D) Further increase the temperature set point of the hypothalamus

Correct Answer: D

Explanation: Further increase the temperature set point of the hypothalamus — this correctly answers the question.

25. What is the function of T cells in cell-mediated immunity?

(A) Directly attack infected cells
(B) Produce antibodies
(C) Produce hormones
(D) Produce red blood cells

Correct Answer: A

Explanation: The immune response provided by T cells is called cell mediated immune response, which involves direct attack on infected cells.

B. Less Important / Secondary Topics

26. What is the function of B cells in humoral immunity?

(A) Produce antibodies
(B) Directly attack infected cells
(C) Produce hormones

(D) Produce red blood cells

Correct Answer: A

Explanation: The stimulation of B cells to divide into plasma clone cells and memory B cells and the secretion of antibodies by plasma clone cells is called humoral mediated immune response.

27. What is the function of memory B cells?

(A) Produce antibodies immediately
(B) Provide long-lasting immunity
(C) Directly attack infected cells
(D) Produce hormones

Correct Answer: B

Explanation: Memory B cells divide to make more plasma cells and memory cells that can protect against future attacks by the same antigen.

28. What is the function of cytotoxic T cells?

(A) Produce antibodies
(B) Produce hormones
(C) Destroy infected cells
(D) Produce red blood cells

Correct Answer: C

Explanation: Cytotoxic T cells secrete cytotoxic which triggers destruction of the pathogen's DNA or perforin which creates holes in the pathogen's plasma membrane.

29. What is the function of helper T cells?

(A) Destroy infected cells
(B) Produce antibodies
(C) Produce hormones
(D) Stimulate cell division of T cells and B cells

Correct Answer: D

Explanation: Helper T cells secrete interleukin 2 which stimulates cell division of T cells and B cells.

30. What is the function of suppressor T cells?

(A) Shut down the immune response
(B) Stimulate immune response
(C) Produce antibodies
(D) Produce hormones

Correct Answer: A

Explanation: Suppressor T cells begin to secrete certain proteins that inhibit further proliferation of T cell, shutting down the immune response.

31. What is the function of memory T cells?

(A) Produce antibodies immediately
(B) Respond to same antigen later
(C) Destroy infected cells immediately
(D) Produce hormones

Correct Answer: B

Explanation: Respond to same antigen later — this correctly answers the question.

32. What is active immunity?

(A) Antibodies passed from one individual to another
(B) Antibodies from mother to foetus
(C) Body manufactures its own antibodies
(D) Antibodies injected into another individual

Correct Answer: C

Explanation: Active immunity is the kind of immunity which is obtained as a result of an infection; the body manufactures its own antibodies.

33. What is passive immunity?

(A) Body manufactures its own antibodies
(B) Vaccination
(C) Infection
(D) Antibodies passed from one individual to another

Correct Answer: D

Explanation: In passive immunity antibodies from one individual are passed into another individual.

34. What is natural active immunity?

(A) Obtained as a result of an infection
(B) Achieved by vaccination
(C) Antibodies from mother to foetus
(D) Antibodies injected into another individual

Correct Answer: A

Explanation: Natural active immunity is the kind of immunity which is obtained as a result of an infection.

35. What is artificial active immunity?

(A) Obtained as a result of an infection
(B) Achieved by vaccination
(C) Antibodies from mother to foetus
(D) Antibodies injected into another individual

Correct Answer: B

Explanation: Artificial Active Immunity (vaccination) is achieved by injecting small amounts of antigen, called the vaccine, into the body of an individual.

36. A patient has a condition that causes a defective immune response to allergens. Which of the following is the most likely diagnosis?

(A) Autoimmune disease
(B) Transplant rejection
(C) Allergy
(D) Immunodeficiency

Correct Answer: C

Explanation: Allergies are defective immune responses leading to chronic health conditions like Hay fever, eczema, asthma and food allergy.

37. A patient has a condition where the immune system attacks healthy cells. Which of the following is the most likely diagnosis?

(A) Allergy
(B) Transplant rejection
(C) Immunodeficiency
(D) Autoimmune disease

Correct Answer: D

Explanation: Autoimmune disease — this correctly answers the question.

38. A patient has a condition where the immune system attacks transplanted tissue. Which of the following is the most likely diagnosis?

(A) Transplant rejection
(B) Allergy
(C) Autoimmune disease
(D) Immunodeficiency

Correct Answer: A

Explanation: Such a response is called transplant rejection.

39. Which of the following correctly describes the role of IgE in allergies?

(A) Produces antibodies

(B) Binds with basophils to release histamine
(C) Produces hormones
(D) Produces red blood cells

Correct Answer: B

Explanation: IgE binds with basophils to release inflammatory chemicals like histamine.

40. Which of the following correctly describes the role of antihistamine drugs?

(A) Increase histamine release
(B) Produce antibodies
(C) Block some of the effects of histamine
(D) Produce hormones

Correct Answer: C

Explanation: Block some of the effects of histamine — this correctly answers the question.

41. Which of the following correctly describes the role of vaccination?

(A) Develop passive acquired immunity
(B) Develop innate immunity
(C) Develop autoimmune disease
(D) Develop active acquired immunity

Correct Answer: D

Explanation: Vaccination is a means to develop active acquired immunity.

42. Which of the following correctly describes the role of colostrum?

(A) Provides natural passive immunity
(B) Provides artificial passive immunity
(C) Provides natural active immunity
(D) Provides artificial active immunity

Correct Answer: A

Explanation: Passive immunity may also be provided by colostrum, the first secretion of the mammary glands.

43. Which of the following correctly describes the role of antivenoms?

(A) Provide natural passive immunity
(B) Provide artificial passive immunity
(C) Provide natural active immunity
(D) Provide artificial active immunity

Correct Answer: B

Explanation: Antibodies against rabies and some snake venoms are examples of artificial passive immunity.

44. Which of the following correctly describes the primary immune response?

(A) Following contacts with the same pathogen
(B) Memory cell response
(C) First contact of the immune system with an infectious agent
(D) Antibody-mediated response

Correct Answer: C

Explanation: The primary immune response displays the first contact of the immune system with an infectious agent.

45. Which of the following correctly describes the secondary immune response?

(A) Slower and weaker than primary response
(B) First contact with an infectious agent
(C) Forms memory cells
(D) Faster and stronger than primary response

Correct Answer: D

Explanation: Secondary immune response is faster and stronger than primary response.

46. Which of the following correctly describes the role of T cells in transplant rejection?

(A) Attack the transplanted tissue

(B) Protect the transplanted tissue
(C) Produce antibodies
(D) Produce hormones

Correct Answer: A

Explanation: Antigen-specific TH cells stimulate the activation and proliferation of appropriate T cells, which then enhance a focused attack on the transplant tissue.

47. Which of the following correctly describes the role of B cells in transplant rejection?

(A) Attack the transplanted tissue directly
(B) Produce antibodies against the transplanted tissue
(C) Protect the transplanted tissue
(D) Produce hormones

Correct Answer: B

Explanation: The responsive helper T cell interacts with the appropriate B cell clone, producing a shower of antibodies to the implanted tissue's MHC antigens.

48. A patient receiving a kidney transplant is given immunosuppressive drugs. Which of the following is the most likely reason?

(A) To improve kidney function
(B) To increase immune response
(C) To prevent rejection of the transplanted kidney
(D) To decrease blood pressure

Correct Answer: C

Explanation: Patients are required to take medications such as cyclosporine to suppress their immune system in order to prevent rejection of the transplanted kidney.

49. Which of the following correctly describes the side effects of immunosuppressive drugs?

(A) Improved immune function
(B) Decreased risk of infection
(C) Increased kidney function
(D) Pain, diarrhoea, leukopenia, sepsis, lymphoma

Correct Answer: D

Explanation: Pain, diarrhoea, leukopenia, sepsis, lymphoma — this correctly answers the question.

50. Which of the following correctly describes the role of the inflammatory response?

(A) Eliminate the initial cause of cell injury and initiate tissue repair
(B) Produce antibodies
(C) Produce hormones
(D) Produce red blood cells

Correct Answer: A

Explanation: The function of inflammation is to eliminate the initial cause of cell injury, clear out necrotic cells and tissues damaged from the original insult and the inflammatory process, and to initiate tissue repair.