

Instructor Test Bank

MULTIPLE CHOICE

1. Tears are considered to be part of the:
 1. first line of defense
 2. second line of defense
 3. third line of defense
 4. specific defenses
 5. nonspecific defenses
 - a. 1, 4
 - b. 1, 5
 - c. 3, 4
 - d. 2, 5

ANS: B

2. A specific defense for the body is:
 - a. phagocytosis
 - b. sensitized T-lymphocytes
 - c. the inflammatory response
 - d. intact skin and mucous membranes

ANS: B

3. The inflammatory response is a nonspecific response to:
 - a. phagocytosis of foreign material
 - b. local vasodilatation
 - c. any tissue injury
 - d. formation of purulent exudates

ANS: C

4. Chemical mediators released during the inflammatory response include:
 - a. albumin and fibrinogen
 - b. growth factors and cell enzymes
 - c. macrophages and neutrophils
 - d. histamine and prostaglandins

ANS: D

5. Which of the following result directly from the release of chemical mediators following a moderate burn injury?
 1. pain
 2. local vasoconstriction
 3. increased capillary permeability
 4. pallor
 - a. 1, 2
 - b. 1, 3

- c. 2, 3
- d. 2, 4

ANS: B

6. A granuloma is best described as:
- a. a small mass of cells with a necrotic center, which may develop as part of the immune response.
 - b. an erosion through the wall of viscera leading to complications
 - c. a type of adhesion
 - d. a form of stenosis in a duct
 - e. hypertrophic scar tissue on the skin

ANS: A

7. Edema associated with inflammation results directly from:
- a. increased fluid and protein in the interstitial compartment
 - b. increased phagocytes in the affected area
 - c. decreased capillary permeability
 - d. general vasoconstriction

ANS: A

8. The warmth and redness related to the inflammatory response results from:
- a. increased interstitial fluid
 - b. production of complement
 - c. large number of WBCs entering the area
 - d. increased blood flow into the area

ANS: D

9. What is the correct order of the following events in the inflammatory response immediately after tissue injury?
- 1. increased permeability of blood vessels
 - 2. dilation of blood vessels
 - 3. transient vasoconstriction
 - 4. migration of leukocytes to the area
 - 5. hyperemia
- a. 5, 3, 2, 1, 4
 - b. 1, 2, 4, 5, 3
 - c. 2, 3, 5, 4, 1
 - d. 3, 2, 5, 1, 4

ANS: D

10. The process of phagocytosis involves the:
- a. ingestion of foreign material and cell debris by leukocytes
 - b. shift of fluid and protein out of capillaries
 - c. formation of a fibrin mesh around the infected area
 - d. movement of erythrocytes through the capillary wall

ANS: A

11. Systemic effects of severe inflammation include:

- a. erythema and warmth
- b. loss of movement at the affected joint
- c. fatigue, anorexia, and mild fever
- d. abscess formation

ANS: C

12. The term *leukocytosis* means:

- a. increased white blood cells in the blood
- b. decreased white blood cells in the blood
- c. increased number of immature circulating leukocytes
- d. significant change in the proportions of WBC

ANS: A

13. Which of the following statements applies to fever?

- a. Viral infection is usually present.
- b. Heat-loss mechanisms have been stimulated.
- c. It is caused by a signal to the thalamus.
- d. It results from release of pyrogens into the circulation.

ANS: D

14. Mechanisms to bring an elevated body temperature down to the normal level include:

- a. general cutaneous vasodilatation
- b. generalized shivering
- c. increased heart rate
- d. increased metabolic rate

ANS: A

15. Replacement of damaged tissue by similar functional cells is termed:

- a. fibrosis
- b. regeneration
- c. resolution
- d. repair by scar tissue

ANS: B

16. Scar tissue consists primarily of:

- a. granulation tissue
- b. epithelial cells
- c. collagen fibers
- d. new capillaries and smooth muscle fibers

ANS: C

17. Which of the following promotes rapid healing?

- a. closely approximated edges of a wound
- b. presence of foreign material
- c. exposure to radiation
- d. vasoconstriction in the involved area

ANS: A

18. Which of the following is the best description of granulation tissue?
- multiple layers of collagen fibers and epithelial cells
 - several layers of new epithelial cells
 - white fibrous tissue
 - fibroblasts and vascular endothelial cells

ANS: D

19. Glucocorticoids are used to treat inflammation because they directly:
- promote the release of prostaglandins at the site
 - decrease capillary permeability
 - mobilize lymphocytes and neutrophils
 - prevent infection

ANS: B

20. Patients taking glucocorticoids for long periods of time are likely to develop all of the following *EXCEPT*:
- decreased bone density
 - wasting of skeletal muscle
 - opportunistic infections
 - increased leukocyte production

ANS: D

21. Which of the following drugs relieves fever and some types of pain but is *NOT* an anti-inflammatory agent?
- Acetaminophen
 - Prednisone
 - Aspirin
 - Ibuprofen

ANS: A

22. A burn area in which the epidermis and part of the dermis is destroyed is classified as:
- full-thickness
 - deep partial-thickness
 - superficial partial-thickness
 - first-degree

ANS: B

23. A woman has burns on the anterior surfaces of her right arm, chest, and right leg. The body surface area (BSA) or the percentage of body surface area burned is approximately:
- 13.5%
 - 18%
 - 22.5%
 - 31.5%

ANS: C

24. The characteristic appearance of a full-thickness burn is:
- a. painful with multiple blisters
 - b. heavy bleeding
 - c. red with some swelling
 - d. dry, firm, charred, or hard white surface

ANS: D

25. A major source of infection in burn areas is:
- a. the skin grafts
 - b. microbes surviving in the hair follicles in the burn area
 - c. circulating blood bringing microbes to the burn wound
 - d. the patient's hands transferring microbes to the burn area

ANS: B

26. A large burn area predisposes to decreased blood pressure because:
- a. bleeding occurs under the burn surface
 - b. the heart is damaged by toxic materials from the burn
 - c. fluid and protein shift out of the vascular compartment
 - d. vasoconstriction occurs in the burn area

ANS: C

27. During an inflammatory response, erythema is caused by:
- a. vasodilatation in the area
 - b. increased capillary permeability
 - c. irritation of sensory nerve endings by histamine
 - d. increased leukocytes in the area

ANS: A

28. The advantages of applying a biosynthetic skin substitute to a large area of full-thickness burns include:
- 1. reduced risk of infection
 - 2. decreased loss of plasma protein and fluid
 - 3. developing stronger fibrous scar tissue
 - 4. more rapid healing
 - 5. regeneration of all glands, nerves, and hair follicles
- a. 1, 3
 - b. 4, 5
 - c. 1, 2, 4
 - d. 2, 3, 5

ANS: C

29. Purulent exudates usually contain:
- a. small amounts of plasma protein & histamine in water
 - b. red blood cells & all types of white blood cells
 - c. numerous leukocytes, bacteria, and cell debris
 - d. large amounts of water containing a few cells

ANS: C

30. Isoenzymes in the circulating blood:
- are a type of plasma protein normally present in the circulating blood
 - often indicate the precise location of an inflammatory response
 - are normally released from leukocytes during the inflammatory response
 - are pyrogens, causing low-grade fever

ANS: B

31. A serous exudate is best described as a:
- thin, watery, colorless exudate
 - thick, sticky, cloudy secretion
 - thick, greenish material containing microbes
 - brownish, clotted material

ANS: A

32. Systemic manifestations of an inflammatory response include:
- edema and erythema
 - area of necrosis and loss of function
 - pain and tenderness
 - elevated C-reactive protein and leukocytosis

ANS: D

33. Indicators of a general inflammatory response would include:
- high, spiking fever and chills
 - elevated C-reactive protein
 - leukopenia and reduced ESR
 - elevated ALT and CK-MB

ANS: B

34. Prolonged administration of glucocorticoids such as prednisone may cause:
- atrophy of lymphoid tissue
 - increased resistance to infection
 - thrombocytopenia
 - decreased protein synthesis
- 1, 2
 - 1, 3
 - 1, 4
 - 2, 4

ANS: C

35. Application of ice to an injured knee reduces edema by:
- promoting return of lymph fluid
 - causing local vasoconstriction
 - increasing the rate of tissue repair
 - causing systemic vasodilatation

ANS: B

36. Healing of large areas of skin loss (including dermis and epidermis) would be most successful through:
- rapid mitosis and regeneration of skin layers
 - resolution of damaged cells in the area
 - covering the area with biosynthetic skin substitute
 - graft of fibrous tissue to the area

ANS: C

37. Prostaglandins are produced from _____ and cause _____.
- activated plasma protein; increased capillary permeability
 - mast cells; vasodilatation and pain
 - platelets; attraction of neutrophils, chemotaxis
 - mast cell granules; activation of histamines and kinins

ANS: B

38. The number of neutrophils in the blood is increased significantly:
- during allergic reactions
 - during chronic inflammation
 - to produce antibodies
 - in order to promote phagocytosis

ANS: D

39. An abscess contains:
- serous exudate
 - purulent exudate
 - fibrinous exudate
 - hemorrhagic exudate

ANS: B

40. Nonspecific agents that protect uninfected cells against viruses are called:
- neutrophils
 - macrophages
 - interferons
 - pyrogens

ANS: C

41. Causes of inflammation include:
- direct physical damage such as cuts and sprains
 - ischemia or infarction
 - allergic reactions
 - infection
 - all the above

ANS: E

42. In normal capillary exchange, what is net hydrostatic pressure based on?

- a. the difference between the hydrostatic pressure within the capillary, as compared with the hydrostatic pressure of the interstitial fluid
- b. the relative osmotic pressures in the blood and the interstitial fluid
- c. the difference between the hydrostatic pressure and osmotic pressure within the capillary
- d. the difference between the concentrations of blood cells, plasma proteins, and dissolved substances in the blood and the interstitial fluid

ANS: A

43. The cardinal signs of inflammation include all of the following *EXCEPT*:
- a. redness
 - b. loss of function
 - c. nausea
 - d. swelling
 - e. pain

ANS: C

44. Drugs that have anti-inflammatory, analgesic, and antipyretic activities include:
- 1. COX-2 inhibitors (NSAIDs)
 - 2. glucocorticoids (e.g., prednisone)
 - 3. ibuprofen (NSAIDs)
 - 4. acetaminophen
 - 5. aspirin (ASA)
- a. 1, 2
 - b. 2, 4
 - c. 1, 3, 5
 - d. 1, 4, 5
 - e. 2, 3, 5

ANS: C

45. Aspirin (ASA) is discouraged for treatment of viral infection in children because of:
- a. decreased bone growth after puberty
 - b. frequent production of blood clots
 - c. formation of a granuloma filled with virus
 - d. the risk of developing Reye's syndrome

ANS: D

46. Systemic manifestations of inflammation include all *EXCEPT*:
- a. pyrexia
 - b. malaise
 - c. chest pain
 - d. anorexia

ANS: C

47. Which of the following cellular elements found in the inflammatory response are responsible for phagocytosis?
- a. macrophages

- b. basophils
- c. B-lymphocytes
- d. T-lymphocytes
- e. eosinophils

ANS: A

48. Which chemical mediator is involved in prolonging the inflammatory response?
- a. bradykinin
 - b. histamine
 - c. leukotrienes
 - d. chemotactic factors

ANS: C

49. Potential complications after healing by scar formation include all the following *EXCEPT*:
- a. lack of sensory function in the area
 - b. contractures and adhesions
 - c. increased hair growth
 - d. keloid formation

ANS: C

50. All of the following are correct statements regarding wound healing *EXCEPT*:
- a. Resolution occurs where there is minimal tissue damage and the cells can recover.
 - b. Granulation tissue forms a permanent replacement for damaged tissue.
 - c. Regeneration occurs where the cells are capable of mitosis.
 - d. Scar tissue forms where the surrounding cells are incapable of mitosis.

ANS: B

51. Which of the following statements regarding inflammation is incorrect?
- a. Inflammation caused by an allergen or a burn will contain a serous exudate.
 - b. Infection is one cause of inflammation.
 - c. Inflammation is the body's nonspecific response to tissue injury.
 - d. Disorders are named using the ending -sarcoma to indicate inflammation.

ANS: D

52. Which of the following helps to localize and contain the foreign material during an inflammatory response?
- a. lymphocytes
 - b. increased fluid
 - c. fibrinogen
 - d. antibodies

ANS: C

53. Why is an application of cold recommended as part of the RICE first aid measures immediately following an inflammatory response due to injury? Because cold:
- a. improves circulation in the area removing chemical mediators
 - b. causes local vasoconstriction to reduce local edema
 - c. draws more phagocytic cells to the area to remove debris

- d. promotes immediate healing

ANS: B

54. One goal for current research in tissue engineering is to:
- a. create a functional replacement tissue when regeneration is not possible
 - b. adapt cells from the injured organ to produce replacement tissue
 - c. design a nonliving synthetic replacement tissue
 - d. use stem cells as a temporary covering for damaged tissue

ANS: A

55. Identify the proper sequence in the healing process.
- a. A blood clot forms; granulation **tissue** grows into the gap; new blood vessels develop; phagocytosis of foreign material and cell debris occurs; and collagen fibers form a tight, strong scar.
 - b. A blood clot forms; phagocytes remove foreign material and cell debris; granulation **tissue** grows into the gap; new blood vessels form; and collagen fibers promote formation of a tight, strong scar.
 - c. Collagen fibers form in the damaged area; a blood clot forms; granulation **tissue** grows into the gap; angiogenesis takes place; and foreign material and cell debris have been removed by phagocytes.
 - d. Foreign material and cell debris have been removed by phagocytes; a blood clot forms; granulation **tissue** grows into the gap; new blood vessels form; and collagen fibers grow and cross-link.

ANS: B

56. All are factors that promote healing *EXCEPT*:
- a. good nutrition: protein, vitamins A and C
 - b. clean, undisturbed wound
 - c. effective circulation
 - d. advanced age
 - e. adequate hemoglobin

ANS: D

57. Identify the correct statement about burns:
- a. The severity of the burn depends on the temperature, and the duration and extent of the burn.
 - b. Young children are less likely to suffer severe burns from immersion in excessively hot water.
 - c. Burns to the palms of the hands are more damaging than burns on the face.
 - d. With a major burn, excessive bleeding may cause shock.

ANS: A

58. Which statement applies to the recommended emergency care for burns?
- a. Drop and lie completely still on your back.
 - b. Call a neighbor for help if the burn appears to be extensive.
 - c. Apply lotion and cover burn tightly with a sheet or towel.
 - d. Cover the burn area with clean, cool, or tepid water and remove nonsticking

clothing.

ANS: D

59. Inhalation of carbon monoxide is a threat for many burn patients because this gas:
- a. causes swelling in the trachea
 - b. quickly reduces the available oxygen in the blood
 - c. prevents full expansion of the lungs
 - d. is toxic to the nervous system

ANS: B

60. Hypermetabolism is common with major burns because of:
- a. increased heat loss from the burn wound
 - b. demand for tissue repair
 - c. recurrent stress response
 - d. a, c
 - e. a, b, c

ANS: E

61. How does scar tissue usually cause obstructions to develop in tube-like structures?
- a. Scar tissue continues to grow and spread, causing a blockage.
 - b. Scar tissue does not stretch, but rather shrinks in time, causing narrowing.
 - c. Scar tissue twists and forms knots as it develops.
 - d. Scar tissue attaches to nearby normal tissue causing obstruction.

ANS: B

62. Which of the following is a serious potential complication found only with the anti-inflammatory COX-2 inhibitor drugs?
- a. increased risk of infection at the site of inflammation
 - b. Reye's syndrome developing in children and young adults
 - c. increased incidence of heart attacks and strokes
 - d. greatly delayed blood clotting

ANS: C