

1. Which one of the following glands produces lymphocytes?

- A. Thymus
- B. Thyroid
- C. Pancreas
- D. Liver

ANSWER: A

2. Lymph vessels are present in which of the following?

- A. Central nervous system
- B. Eyeball
- C. Dermis of the skin
- D. Cartilage

ANSWER: C

3. Which of the following best describes the lymphatic system?

- A. Present in the central nervous system.
- B. There is a circulation.
- C. Essential for immunologic defences of the body against bacteria and viruses
- D. Absorption of dietary protein

ANSWER: C

4. What is the end of the lymph?

- A. Venous system
- B. Liver
- C. Heart
- D. Tissue fluid

ANSWER: A

5. What is the end of the thoracic duct?

- A. Right venous angle
- B. Left venous angle
- C. Inferior vena cava
- D. Right brachiocephalic vein

ANSWER: B

6. What is the end of the right lymphatic trunk?

- A. Right venous angle
- B. Left venous angle
- C. Inferior vena cava
- D. Left brachiocephalic vein

ANSWER: A

7. Where is the beginning of the thoracic duct?

- A. In the pelvis
- B. In the abdomen
- C. In the thorax
- D. In the neck

ANSWER: B

8. Cisterna chyli gives origin to which of the following?

- A. Right lymphatic trunk
- B. Left jugular lymph trunk
- C. Thoracic duct
- D. Right subclavian lymph trunk

ANSWER: C

9. Where is the thymus gland normally present?

- A. Posterior mediastinum
- B. Abdomen
- C. Middle Mediastinum
- D. Anterior mediastinum

Answer: D

10. What is the origin of the splenic artery?

- A. Celiac trunk.
- B. Hepatic artery
- C. Superior mesenteric artery
- D. Left gastroepiploic artery

ANSWER: A

11. Which one of the following best describes the spleen?

- A. Its inferior border is notched
- B. Right colic flexure is related
- C. Its long axis corresponds with 10th rib
- D. Normally, it can be felt

ANSWER: C

12. Which one of the following best describes the spleen?

- A. Separated from the stomach by the greater sac
- B. Head of pancreas is related
- C. Its long axis corresponds with the 10th rib
- D. 3 Ounces weight

ANSWER: C

13. Visceral surface of the spleen is related to which of the following?

- A. Left kidney
- B. Pyloric part of the stomach
- C. Diaphragm
- D. Duodenum

ANSWER: A

14. Posterior surface of the spleen is related to which of the following?

- A. Left kidney
- B. Pyloric part of the stomach
- C. Diaphragm
- D. Pancreas

ANSWER: C

15. Lower pole of the spleen extends forward as far as which of the following?

- A. Mid-clavicular
- B. Mid-axillary
- C. Anterior axillary
- D. Posterior axillary

ANSWER: B

16. How many lymph nodes in the body?

- A. 250
- B. 350
- C. 450
- D. 550

ANSWER: C

17. what is the main venous drainage of the thymus gland?

- A. Right brachiocephalic vein
- B. Left brachiocephalic vein
- C. Inferior vena cava
- D. Azygos vein

ANSWER: B

18. What is the approximate percentage of plasma in total blood volume?

- A) 45%
- B) 55%

C) 65%

D) 75%

ANSWER: B

19. Which plasma protein is primarily responsible for maintaining colloidal osmotic pressure?

A) Globulin

B) Fibrinogen

C) Albumin

D) Gamma globulin

ANSWER: C

20. What is the normal lifespan of a human red blood cell?

A) 30 days

B) 60 days

C) 90 days

D) 120 days

ANSWER: D

21. Which organ is the primary site of erythropoietin production in adults?

A) Liver

B) Kidney

C) Spleen

D) Bone marrow

ANSWER: B

22. In fetal life, where does erythropoiesis primarily occur during the first six months?

A) Bone marrow

B) Liver and spleen

C) Kidney

D) Thymus

ANSWER: B

23. Which type of hemoglobin consists of 2 alpha and 2 gamma chains?

A) HbA

B) HbA2

C) HbF

D) HbS

ANSWER: C

24. What is the main stimulus for erythropoiesis?

A) High blood glucose

B) Low oxygen tension in arterial blood

C) High blood pressure

D) Elevated pH

ANSWER: B

25. Which vitamin requires intrinsic factor for absorption?

A) Vitamin C

B) Vitamin B12

C) Folic acid

D) Vitamin K

ANSWER: B

26. What condition results from a deficiency of spectrin and ankyrin in RBC membranes?

A) Sickle cell anemia

B) Spherocytosis

C) Aplastic anemia

D) Pernicious anemia

ANSWER: B

27. Which plasma protein is most involved in blood clot formation?

A) Albumin

- B) Gamma globulin
- C) Fibrinogen
- D) Transferrin

ANSWER: C

28. Where is iron primarily absorbed in the gastrointestinal tract?

- A) Stomach
- B) Jejunum
- C) Upper duodenum
- D) Colon

ANSWER: C

29. Which of the following increases blood viscosity?

- A) Anemia
- B) Polycythemia
- C) Hypoproteinemia
- D) Overhydration

ANSWER: B

30. What is the average blood volume in a normal adult?

- A) 3 liters
- B) 5 liters
- C) 7 liters
- D) 10 liters

ANSWER: B

31. Which enzyme in RBCs protects against hydrogen peroxide toxicity?

- A) Carbonic anhydrase
- B) Histaminase
- C) Glucose-6-phosphate dehydrogenase
- D) Catalase

ANSWER: C

32. What is the normal albumin/globulin (A/G) ratio?

- A) 0.5 0.8
- B) 1.2 1.6
- C) 2.0 2.5
- D) 3.0 3.5

ANSWER: B

33. A person with blood group AB has which of these?

- a) Anti-A antibodies in plasma
- b) Anti-B antibodies in plasma
- c) Both A and B antigens on RBCs
- d) Neither A nor B antigens on RBCs

Answer: c) Both A and B antigens on RBCs

34. Which blood type is considered the universal donor?

- a) A
- b) B
- c) AB
- d) O

Answer: d) O

35. Monocytes differentiate into which cell type in tissues?

- a) Osteoblasts
- b) Macrophages
- c) Plasma cells
- d) Mast cells

Answer: b) Macrophages

36. T-lymphocytes maturation and differentiation take place in which organ?

- a) Bone marrow
- b) Spleen
- c) Thymus
- d) Liver

Answer: c) Thymus

37. Polymorphonuclear leukocytes is another name for which type of cells?

- a) Neutrophils
- b) Mononuclear leukocytes
- c) Agranulocytes
- d) Mast cells

Answer: a) Neutrophils

38. What is the normal life span of RBCs?

- a) 1 month
- b) 4 months
- c) 1 year
- d) 2 years

Answer: b) 4 months

39. Which cytoskeletal protein helps maintain RBC shape?

- a) Keratin
- b) Spectrin
- c) Myosin
- d) Tubulin

Answer: b) Spectrin

40. Which WBC increases in chronic infections like tuberculosis?

- a) Neutrophils
- b) Eosinophils
- c) Lymphocytes
- d) Basophils

Answer: c) Lymphocytes

41. Which hormone stimulates RBC production?

- a) Insulin
- b) Erythropoietin
- c) Thyroxine
- d) Cortisol

Answer: b) Erythropoietin

42. In which condition does neutrophilia occur?

- a) Typhoid fever
- b) Appendicitis
- c) Viral influenza
- d) Radiation therapy

Answer: b) Appendicitis

43. The "closed safety pin" appearance during bipolar staining is characteristic of which pathogen?

- A) *Francisella tularensis*
- B) *Bartonella henselae*
- C) *Brucella abortus*
- D) *Yersinia pestis*

ANSWER: D

44. Which of the following is the primary mode of transmission for the Bubonic plague?

- A) Ingestion of unpasteurized milk
- B) Respiratory droplets from humans
- C) Bite from an infected flea
- D) Direct contact with rabbit fur

ANSWER: C

45. Which of the following is the virulence factor of *Yersinia pestis* responsible for inhibiting phagocytosis?

- A) Envelope antigen (F-1)
- B) Exotoxin
- C) Endotoxin
- D) Coagulase

ANSWER: A

46. Which of the following best defines bacteremia?

- A) Multiplication of bacteria in the bloodstream with clinical symptoms
- B) Simple presence of bacteria in the bloodstream with no or mild symptoms
- C) Infection of the lymph nodes only
- D) Presence of viruses in the blood

ANSWER: B

47. Which of the following organisms is the most common cause of bloodstream infections associated with prosthetic implants and central venous catheters?

- A) *Escherichia coli*
- B) *Pseudomonas aeruginosa*
- C) Coagulase-negative *Staphylococci*
- D) *Brucella melitensis*

ANSWER: C

48. Which of the following is a specific manifestation of *Bartonella henselae* infection in AIDS patients?

- A) Bubo
- B) Bacillary angiomatosis
- C) Undulant fever
- D) Pneumonia

ANSWER: B

49. A 45-year-old slaughterhouse worker presents with a fever that rises during the day and falls at night, accompanied by profuse sweating and joint pain. What is the most likely diagnosis?

- A) Plague
- B) Tularemia
- C) Brucellosis
- D) Septicemia

ANSWER: C

50. A 10-year-old boy presents with a swollen, painful lymph node in his groin and a high fever. He recently returned from a camping trip where he noticed several flea bites. What is the characteristic clinical finding for his likely condition?

- A) Stellate microabscesses
- B) Bubo
- C) "Owl-eye" inclusions
- D) Rose spots

ANSWER: B

51. A researcher working in a lab with wild rodent samples accidentally inhales an aerosolized pathogen. They quickly develop a rapidly progressing pneumonia. Which organism is the most likely cause?

- A) *Yersinia pestis*
- B) *Brucella melitensis*
- C) *Bartonella henselae*
- D) *Streptococcus pyogenes*

ANSWER: A

52. A 5-year-old girl presents with a fever and a swollen lymph node under her arm. Her mother mentions the girl was scratched by a stray cat two weeks ago. Histology of the lymph node would likely show which one of the following?

- A) Central granuloma
- B) Safety pin staining bacteria

- C) Stellate microabscesses
- D) Gram-positive cocci in chains

ANSWER: C

53. A patient hospitalized for a long duration with a urinary catheter develops a bloodstream infection. Which organism is frequently associated with prolonged hospitalization?

- A) *Brucella suis*
- B) *Pseudomonas aeruginosa*
- C) *Francisella tularensis*
- D) *Yersinia pestis*

ANSWER: B

54. A 25-year-old patient presents with fever, sore throat, and bilateral cervical lymphadenopathy. A lymph node biopsy reveals prominent paracortical expansion with immunoblasts. Which of the following is the most likely causative agent?

- A) *Mycobacterium tuberculosis*
- B) Epstein-Barr virus
- C) *Toxoplasma gondii*
- D) *Bartonella henselae*

Answer B

55. In the histological examination of a lymph node, you observe well-formed secondary follicles with large, pale germinal centers containing numerous tingible body macrophages and distinct mantle zones. The follicles are variable in size and do not infiltrate the capsule. This pattern is most characteristic of:

- A) Hodgkin lymphoma
- B) Metastatic carcinoma
- C) Reactive follicular hyperplasia
- D) Sinus histiocytosis

Answer C

56. A pathologist examines a lymph node showing multiple granulomas with central caseous necrosis and Langhans giant cells. The granulomas are of variable size, with near-total replacement of the node by necrosis. Which of the following complications is most specifically associated with this condition?

- A) Formation of non-caseating "naked" granulomas
- B) Development of a cold abscess that may open into the peritoneum
- C) Stellate necrotizing granulomas with microabscesses
- D) Sinus expansion due to histiocyte distension

Answer B

57. Which of the following pairs correctly matches a type of chronic specific lymphadenitis with its characteristic histopathological finding?

- A) Sarcoidosis Caseating granulomas with Langhans giant cells
- B) Cat scratch disease Non-caseating epithelioid cell microgranulomas
- C) Tuberculous lymphadenitis Stellate necrotizing granulomas with neutrophilic cores
- D) Toxoplasmosis Non-caseating epithelioid cell granulomas

Answer D

58. A patient with systemic lupus erythematosus (SLE) develops lymphadenopathy. A lymph node biopsy would most likely reveal which pattern of reactive hyperplasia?

- A) Follicular hyperplasia with tingible body macrophages
- B) Sinus hyperplasia with distension by histiocytes
- C) Paracortical hyperplasia due to T-cell stimulation
- D) Effacement of architecture by monotonous lymphoid proliferation

Answer C

59. The primary histological difference between the granulomas of sarcoidosis and those of tuberculosis in lymph nodes is best described as:

- A) Presence vs. absence of epithelioid cells
- B) Caseation vs. non-caseation
- C) Location in the cortex vs. medulla
- D) Association with neutrophils vs. lymphocytes

Answer B

60. Which of the following structures is correctly paired with its primary lymphoid function or cellular constituency?

- A) Paracortex B cell zone and primary follicles
- B) Medullary sinuses Contain efferent lymphatic vessels
- C) Germinal center Site of naïve T cell maturation
- D) Subcapsular sinus Initial point of entry for afferent lymph

Answer D

61. A biopsy from a mesenteric lymph node shows multiple small granulomas composed of epithelioid cells with minimal necrosis. Special stains for acid-fast bacilli are negative. This histology is most consistent with:

- A) Early tuberculous lymphadenitis
- B) Sarcoidosis
- C) Acute suppurative lymphadenitis
- D) Reactive follicular hyperplasia

Answer A

62. Which type of reactive lymphoid hyperplasia is characterized by expansion of the lymphatic sinuses due to an accumulation of benign histiocytes and lymphocytes, and can be seen in conditions like sinus histiocytosis with massive lymphadenopathy?

- A) Follicular hyperplasia
- B) Paracortical hyperplasia
- C) Sinusoidal hyperplasia
- D) Medullary hyperplasia

Answer C

63. In the context of lymph node drainage and involvement, acute bacterial lymphadenitis secondary to a peritonsillar abscess would most typically exhibit which of the following gross and microscopic features?

- A) Matted, firm nodes with caseous necrosis on cut surface
- B) Discrete, soft, tender nodes with neutrophilic infiltration
- C) Non-painful enlargement with paracortical immunoblasts
- D) Diffuse enlargement with non-caseating granulomas

Answer B