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## B.Sc. II (Minor) Semester. IV

### Paper. VII. Physiology, Endocrinology & Histology

#### Question Bank Year – 2025-26

#### Multiple Choice Questions

- Liver functions are pivotal to
  - Osmoregulation
  - thermoregulation
  - homeostasis
  - all of these
- During catabolism of amino acids, the release of the amino group is known as
  - deamination
  - hydrolysis
  - ammunition
  - hydration
- The only treatment in case of uremia is \_\_\_\_\_ .
  - dialysis
  - lithotripsy
  - lung transplant
  - kidney transplant
- This type of nephron is best to conserve water in body
  - Juxtamedullary nephrons
  - cortical nephrons
  - both (a) and (b)
  - serotical nephrons
- This is responsible for production of concentrated urine
  - proximal tubule
  - cortical nephrons
  - distal tubule
  - juxtamedullary nephron

6. This nephron segment is not permeable to water even in the presence of ADH

(a) Collecting duct (b) descending limb of loop of Henle

(c) ascending limb of loop of Henle (d) both (b) and (c)

7. Leaves fall of helping in plant to get rid of accumulated wastes hence known as

(a) ebony (b) sacrifice (c) excretophore (d) helper

8. Active uptake of sodium is promoted by action of enzyme known as

(a) adrenatrone (b) aldosterone (c) antidiuretic (d) diuretic

9. The vertebral column provides more strength as a result of 4

(a) burantals (b) appendanges (c) frontals (d) curvatures

10. Dogs have specialized evaporative cooling in the respiratory tract by

(a) Woofing (b) licking (c) panting (d) sleeping

11. This statement about Homeostasis is incorrect

(a) because of this, the fluctuations of the internal environment are of extremely narrow range as compared to that of the external environment

(b) there is a definite control system regulating the homeostatic activities

(c) homeostatic mechanisms keep the internal environment fixed despite wide changes in the external environment

(d) all the above

12. In which part of the respiratory system, gaseous exchange takes place?

(a) Alveoli (b) Pharynx (c) Larynx (d) Trachea

13. \_\_\_\_\_ is located between two pleural sacs and is the central compartment of the thoracic cavity?

(a) Hilum (b) Pleura (c) Mediastinum (d) Thoracic cage

14. Which of the following statements is true about involuntary breathing?

- (a) It is controlled by the bronchioles
- (b) It is controlled by the pulmonary arterioles
- (c) It is controlled by the alveolar-capillary network
- (d) It is controlled by the neurons, located in the medulla and pons

15. Which of the following are parts of the human respiratory system?

- (a) Trachea
- (b) Diaphragm
- (c) The lungs
- (d) All of the above

16. Which of the following gas is released out during the process of respiration?

- (a) Oxygen
- (b) Hydrogen
- (c) Carbon dioxide
- (d) None of the above

17. The tiny air sacs present in human lungs is called\_\_\_\_\_.

- (a) Alveoli
- (b) Bronchus
- (c) Bronchioles
- (d) All of the above

18. Which of the following functions by filtering and keeping the mucus and dirt away from our lungs?

- (a) Cilia
- (b) Bronchioles
- (c) Hairs in the lungs
- (d) All of the above

19. The total number of alveoli present in the human lungs is estimated to be around \_\_\_\_\_.

- (a) 1 billion
- (b) 800 million
- (c) 500 million
- (d) 1500 million

20. The exchange of gases between the external environment and the lungs\_\_\_\_\_.

- (a) Respiration
- (b) External respiration
- (c) Cellular respiration
- (d) None of the above

21. Which one of the following statements is false about the trachea?

- (a) Has C-shaped rings
- (b) It is covered by epiglottis
- (c) It splits into the right and left lungs
- (d) None of the above

22. The maximum volume of air contained in the lung by a full forced inhalation is called \_\_\_\_\_.

(a) Tidal volume    (b) Vital capacity    (c) Ventilation rate    (d) Total lung capacity

23. Which one of the following is correct regarding larynx?

(a) It houses the vocal cords

(b) It prevents the invading pathogens into the trachea

(c) It is an organ made of cartilage and connects the pharynx to the trachea

(d) All of the above.

24. Which of the following is the function of the trachea?

(a) Gaseous Exchange

(b) Filters the air we breathe

(c) Exhales the air from the body

(d) All of the above

25. Which of these statements is true about internal respiration?

(a) Production of ATP

(b) Exchange of gases between the bloodstream and tissue cells

(c) Exchange of gases between alveoli and the bloodstream

(d) Breathing between the atmosphere and the alveoli

26. Which of the following organs functions as an air conditioner?

(a) Larynx

(b) Pharynx

(c) Nasal chambers

(d) All of the above

27. The normal breathing process is controlled by \_\_\_\_\_.

(a) Lungs

(b) Ventral respiratory group

(c) Dorsal respiratory group

(d) Both (b) and (c)

28. In Aves, the exchange of gases occurs within the \_\_\_\_\_.

(a) Lungs

(b) Air sacs

(c) Air sacs and Lungs

(d) None of the above

29. Which of the following statements is true about the entry of air into the lungs?

(a) Air enters the body and travels to the lungs through the mouth and the nose

- (b) Air enters the body and travels to the lungs through the oesophagus and gullet
- (c) Air enters the body and travels to the lungs through the windpipe and the pores
- (d) Air enters the body and travels to the lungs through the nose and the nervous system.

30. The windpipe is also called the \_\_\_\_\_.

- (a) Larynx
- (b) Lungs
- (c) Trachea
- (d) Oesophagus

31. In Earthworms, the process of respiration is through \_\_\_\_\_.

- (a) Skin
- (b) Head
- (c) Lungs
- (d) Pores on its anterior end

32. Which of the following blood cells play an important role in blood clotting?

- (a) Thrombocytes
- (b) Neutrophils
- (c) Leucocytes
- (d) Erythrocytes

33. Serum differs from blood as it lacks

- (a) antibodies
- (b) clotting factors
- (c) albumins
- (d) globulins

34. Which of the following is correct?

- (a) Serum contains blood and fibrinogen
- (b) Plasma is blood without lymphocytes
- (c) Blood comprises plasma, RBC, WBC and platelets
- (d) Lymph is plasma with RBC and WBC

35. This plasma protein is responsible for blood coagulation

- (a) Fibrinogen
- (b) Globulin
- (c) Serum amylase
- (d) Albumin

36. DNA is not present in

- (a) an enucleated ovum
- (b) hair root
- (c) a mature spermatozoa
- (d) mature RBCs

37. Globulins of the blood plasma are responsible for

- (a) defence mechanisms
- (b) blood clotting

(c) oxygen transport (d) osmotic balance

38. Lymph differs from blood in having

(a) no plasma (b) more RBCs and less WBCs

(c) more WBCs and no RBCs (d) plasma without proteins

39. WBCs which release heparin and histamine

(a) Basophils (b) Neutrophils (c) Monocytes (d) Eosinophils

40. WBCs which are the most active phagocytic cells

(a) lymphocytes and macrophages (b) neutrophils and eosinophils

(c) neutrophils and monocytes (d) eosinophils and lymphocytes

41. Find the correct statement for WBCs

(a) can squeeze through blood capillaries (b) produced only in the thymus

(c) deficiency leads to cancer (d) do not contain a nucleus

42. In the ABO system, blood group 'O' is characterized by the:

(a) presence of antigen O

(b) presence of both antigen A and antigen B

(c) absence of both antigen A and antigen B

(d) presence of antigen A and absence of antigen

43. Antiserum is

(a) blood serum containing specific antibodies

(b) blood serum containing specific antigens

(c) blood serum containing a mixture of antigens and antibodies

(d) blood serum in which antigens and antibodies are both absent

44. A false positive result is best described as one that is given

- (a) by a substance other than that being tested for
- (b) when the substance being tested for is present in large amounts
- (c) when substance being tested for is present in minute quantities
- (d) when substance being tested for is absent

45. Which antibodies are found in the plasma of a person with type A blood?

- (a) anti-A, but not anti B
- (b) neither anti-A nor anti B
- (c) both anti-A and anti B
- (d) anti-B, but not anti-A

46. Under this circumstance, an antigen-antibody reaction will occur. A person with

- (a) Type A blood is given type O blood
- (b) Type AB blood is given type O blood
- (c) Type O blood is given type A blood
- (d) Type AB blood is given type B blood

47. When typing blood, a positive reaction

- (a) shows which antigens are present
- (b) shows clumping
- (c) helps deduce which blood type the sample is
- (d) all of the above

48. If a blood type ends in + (positive) that means

- (a) your attitude is positive
- (b) you are positive for an Rh protein
- (c) you are positive you know your blood type
- (d) + sign at the end is insignificant

49. In the context of the ABO blood group, a transfusion of AB blood may be given to a person who has blood type

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

50. Human blood types in the ABO blood group are identified by

- (a) clotting factors in plasma
- (b) microscopic examination of white blood cells
- (c) antigen-antibody reactions
- (d) series of enzyme controlled reaction

51. Red blood cells that do not contain either A or B antigens on their surface are normally found in the person with blood type

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

52. The walls of the ventricles possess thick muscular projections, they are known as

- (a) Conus arteriosus            (b) Truncus arterosus  
(c) Chordae tendineae            (d) Columnae carneae

53. Regulation of normal activities of the human heart takes place

- (a) by the autonomic nervous system            (b) intrinsically  
(c) by the diencephalon            (d) by the brain stem

54. The location of the neuro centre activity of the heart is

- (a) Midbrain            (b) Pons            (c) Cerebrum (d) Medulla Oblongata

55. The hormonal regulation of cardiac output is

- (a) mediated by the adrenal medulla            (b) mediated by the adrenal cortex  
(c) mediated by thyroid            (d) mediated by pineal

56. The reason why tricuspid and bicuspid valves are closed is

- (a) ventricular relaxation            (b) ventricular filling  
(c) atrial systole            (d) attempted backflow of blood into the atria

Answer: (d)

57. Which of these events will not take place if the semilunar valves did not function?

- (a) ventricular contraction            (b) atrial contraction  
(c) blood flow            (d) Production of heart sound

58. The reason why the SA node (sino-atrial node) is the natural pacemaker is

- (a) generates an action potential which is more in size than other parts of the conducting system

- (b) only part of the conducting system generating impulse
- (c) located in the right atrium
- (d) generates the highest number of action potentials in the conducting system

59. The tricuspid valve is present between

- (a) Ventricle and pulmonary artery
- (b) Ventricle and aorta
- (c) left auricle and left ventricle
- (d) right auricle and right ventricle

60. Bundle of His is a network of

- (a) Muscle fibres present only in the ventricle wall
- (b) Nerve fibres distributed in ventricles
- (c) muscle fibres distributed throughout the heart walls
- (d) nerve fibres found throughout the heart

61. A \_\_\_\_\_ is considered as the basic functional unit of the human kidney

- (a) Exon
- (b) Nephron
- (c) Cilia
- (d) Neuron

62. The Krebs-Henseleit cycle is a sequence of biochemical reactions that take place in \_\_\_\_\_

- (a) Brain
- (B) Liver
- (c) Urinary bladder
- (d) Lungs

63. Bowman capsule is located in \_\_\_\_\_

- (a) Cortex
- (b) Henle's loop
- (c) Bladder
- (d) None of the above

64. The \_\_\_\_\_ is the point where two or three major renal calyces join together.

- (a) Renal pelvis
- (b) Urethra
- (c) Bowman's capsule
- (d) None of the above

65. \_\_\_\_\_ are tubes made up of smooth muscle fibres that transport urine to the bladder from the kidneys

- (a) Renal Papilla
- (b) Urethra
- (c) Ureters
- (d) None of the above

66. Nitrogenous wastes excreted through urine in humans is

- (a) Trimethylamine oxide
- (b) Ammonia
- (c) Uric Acid
- (d) Urea

67. \_\_\_\_\_ is a distensible, hollow, muscular sac located in the pelvis, just behind the pubic bone.

- (a) Bowman's capsule      (b) Urinary bladder
- (c) Ureter                      (d) None of the above

68. The \_\_\_\_\_ synthesizes most of the excretory compound in humans and is eliminated through \_\_\_\_\_

- (a) Liver, Urine              (b) Kidneys, Urine
- (c) Liver, Bile juice        (d) None of the above

69. \_\_\_\_\_ is responsible for the recovery of water and sodium chloride from the urine.

- (a) Bowman's capsule      (b) Ureter
- (c) Loop of Henle            (d) None of the above

70. \_\_\_\_\_ are cells present in the Bowman capsule that wrap around the capillaries of the glomerulus.

- (a) Zymogenic cells        (b) Enterochromaffin-like cells
- (c) Parietal cells            (d) Podocytes

71. Which of the following is the most essential nutrient for a woman during her initial stages of pregnancy to prevent birth defects?

- (a) Thiamin                  (b) Folic acid              (c) Vitamin C              (d) Vitamin E

72. Which of the following food sources has the highest levels of vitamin C?

- (a) Parsley                  (b) Broccoli                (c) Black currants        (d) Orange juice

73. Which of the following vitamin helps in blood clotting?

- (a) Vitamin A              (b) Vitamin C              (c) Vitamin D              (d) Vitamin K

74. Which is the leading cause of blindness in children worldwide?

- (a) Glaucoma    (b) Cataracts    (c) Colour blindness    (d) Vitamin A deficiency

75. Which of the following vitamin deficiency causes Beriberi?

(a) Vitamin B1      (b) Vitamin B2      (c) Vitamin B6      (d) Vitamin B12

76. Who is most likely to develop scurvy – A vitamin C deficiency?

- (a) A pregnant woman      (b) A malnourished child  
(c) A long-time alcoholic      (d) A person with the eating disorder anorexia nervosa

77. Which of the following vitamin functions as both, hormone and visual pigment?

- (a) Thiamine      (b) Retinal      (c) Riboflavin      (d) Folic acid

78. Which of the following nutrient deficiency causes megaloblastic anaemia?

- (a) Folic acid      (b) Niacin      (c) Pyridoxine      (d) Cobalamin

79. Which of the following is a fat-soluble vitamin?

- (a) Vitamin B      (b) Vitamin C      (c) Vitamin B<sub>12</sub>      (d) Vitamin K

80. Which of the following diseases is caused by the deficiency of Niacin?

- (a) Scurvy      (b) Rickets      (c) Pellagra      (d) Pernicious anaemia

81. These are the set of hormones that the hypothalamus produces

- (a) Thyroxine and oxytocin      (b) Antidiuretic hormone and oxytocin  
(c) Testosterone and oxytocin      (d) Estrogen and oxytocin

82. In hypothalamus, osmoreceptors are involved in

- (a) secretion of aldosterone      (b) secretion of ACTH  
(c) secretion of ADH      (d) secretion of GH

83. If Hypothalamus does not secrete GnRH, it would have an impact on

- (a) Hypersecretion of pituitary gonadotropins  
(b) Hyposecretion of pituitary gonadotropins  
(c) Hypersecretion of prolactin  
(d) Hypersecretion of oxytocin

84. GnRH directly triggers the release of

- (a) Thyrocalcitonin      (b) Estrogen      (c) Progesterone      (d) FSH

85. The Hypothalamus forms a part of \_\_\_\_\_

- (a) Future brain      (b) Hind brain  
(c) Forebrain      (d) Midbrain

86. This comprises nerve tissue and down growth from the hypothalamus

- (a) Adrenal      (b) Thymus  
(c) Anterior pituitary      (d) Posterior pituitary

87. The secretion of several anterior pituitary hormones are governed by other hormones from \_\_\_\_\_ .

- (a) Thyroid gland      (b) Hypothalamus  
(c) Adrenal gland      (d) Pancreatic lobes

88. In the hypothalamus, the displacement of set point is a result of

- (a) Pyrogens      (b) Receptors      (c) Effectors      (d) Pathogens

89. This event can cause a damage to the hypothalamus portal system

- (a) decreased secretion of PTH      (b) decreased secretion of TSH  
(c) decreased secretion of oxytocin      (d) decreased secretion of ADH

90. This structure connects hypothalamus and the pituitary

- (a) Cerebral cortex      (b) Infundibulam      (c) Anterior      (d) Corpus callosum

91. The islets of Langerhans are found in

- (a) Stomach      (b) Alimentary canal      (c) Pancreas      (d) Liver

92. Secretion of pancreatic juice is triggered by

- (a) secretin      (b) enterogastrone      (c) gastrin      (d) enterokinase

93. This is a common passage for bile and pancreatic juice

