BLOOD

1. The circulatory system consists of the following structures:
a. the heart;
b. blood;
c. vascular tree;
d. lymph;
e. blood vessels.

2. The vascular tree consists of:
a. arteries;
b. capillaries;
c. veins;
d. the heart;
e. blood vessels.

3. The circulatory system is made up of all the organs through which it circulates:
a. blood;
b. oxygen;
c. lymph;
d. air;
e. digestive juice.

4. The internal environment consists of all fluids existing in the body outside the cells:
a. blood;
b. interstitial fluid;
c. lymph;
d. oxygen;
e. hyaloplasma.

5. Blood elements are:
a. red blood cells;
b. white blood cells;
c. platelets;
d. erythrocytes;
e. agglutinins.

6. Red blood cells:
a. are also called erythrocytes;
b. are also called red cells:
c. do not have a core;
d. are mononucleated cells;
e. are polynucleated cells.

7. Red blood cells have the following roles:
a. carry oxygen;
b. transport carbon dioxide;
c. participate in maintaining acid-base balance;
d. transport respiratory gases;
e. ensure hemostasis.

8. The number of red blood cells is:
a. 4500000 / mm3 in women;
b. 8500000 / mm3 at teenagers;
c. 5000000 / mm3 in men;
d. influenced by SNV;
e. 150000-300000 / mm3.

9. Red blood cells are also called:
a. red cells;
b. leukocytes;
c. platelets;
d. erythrocytes;
e. lymphocytes

10. Leukocytes:
a. have a nucleus;
b. have mitochondria;
c. have membrane;
d. are mobile cells;
e. have a role in blood clotting.

11. Leukocytes are characterized by:
a. they have the capacity to issue pseudopodia;
b. they have the capacity to phagocyte;
c. they have the diapedesis property;
d. they carry antigens;
e. they carry respiratory gases.

12. Leukocytes are classified into:
a. granulocytes;
b. polygranulocites;
c. mononuclear;
d. agranulocytes;
e. thymocytes

13. Granulocytes are classified into:
a. monocytes;
b. neutrophils;
c. lymphocytes;
d. eosinophils;
e. basophils.

14. Agranulocytes include:
a. neutrophils;
b. eosinophils;
c. monocytes;
d. lymphocytes;
e. basophils.

15. The standard number of platelets per mm3 may be:
a.150000;
b. 250,000;
c. 300,000;
d. 200,000;
e. 5000.

16. The human body constantly comes in contact with:
a. pathogens;
b. free antigens;
c. antigens carriers;
d. antibodies range;
e. "biological aggressors".

17. The antigen:
a. is a particle specific to the body;
b. is a pathogen;
c. defends the body;
d. penetrating the internal environment causes the production of antibodies;
e. it is a plasma protein from gamma globulin class.

18. Antibodies:
a. in the internal environment, cause production of antigens;
b. neutralize the antigen;
c. destroy the antigen;
d. phagocytes the antigen;
e. are immunoglobulins.

19. The defence function of blood is achieved by:
a. non-specific defence;
b. osmosis;
c. antigens;
d. specific defence;
e. antibodies.

20. Non-specific defence:
a. is innate;
b. is present in all people;
c. is moderately effective;
d. is obtained by vaccination;
e. is achieved by phagocytosis.

21. Specific defence:
a. is innate;
b. occurs as a result of exposure to immunogens;
c. is a primitive defence;
d. is not present in all people;
e. is acquired.

22. Vaccination:
a. trigger immune mechanisms;
b. the reactions produced in the body are stronger;
c. the final effect is acquiring immunity;
d. is a non-specific defence means;
e. consists in placing attenuated pathogens in the body.

23. The plasma contains:
a. water;
b. dry residue;
c. organic substances (Ca2 +);
d. inorganic substances (HCl);
e. organic substances (proteins).

24. Erythrocytes membrane has in its structure:
a. numerous types of antibodies;
b. antigens;
c. agglutinins;
d. agglutinogens;
e. various types of macromolecules.

25. Plasma contains:
a. antibodies;
b. antigens;
c. agglutinins;
d. agglutinogens;
e. albumins.

26. Most common agglutinogens are:
a. A;
b. B;
c. D;
d. alpha;
e. beta.

27. Most common agglutinins are:
a. gamma;
b. alpha;
c. delta;
d. beta;
e. Rh.

28. The most important immunological blood systems are:
a. OAB;
b. Rh (B);
c. Rh (A);
d. Rh (D);
e. Rh (O).

29. Blood groups:
a. There are four in number;
b. are important for blood transfusions;
c. are based on OAB system;
d. a blood group does not have homologous agglutinogen and agglutinin;
e. a blood group has homologous agglutinogen and agglutinin.

30. Blood groups are:
a. O (I);
b. A (II);
c. B (III):
d. AB (IV);
e. O (IV).

31. Group O (I) has the following agglutinogens, with some exceptions:
a. alpha;
b. A;
c. beta;
d. it does not have agglutinogens;
e. B.

32. Group O (I) has the following agglutinins:
a. alpha;
b. it does not have agglutinins;
c. B;
d. Beta;
e. A.

33. Group A (II) has the following agglutinins with some exceptions:
a. alpha;
b. O;
c. Rh;
d. beta;
e. A.

34. Group AB (IV) has the following agglutinogens:
a. A;
b. alpha;
c. beta;
d. B;
e. gamma.

35. Group AB (IV) has the following agglutinins with some exceptions:
a. alpha;
b. O;
c. beta;
d. it does not have agglutinins;
e. A.

36. Group O (I) is characterized by:
a. can receive from Group A;
b. can donate to all groups;
c. can receive from all groups;
d. is a universal donor;
e. is a universal recipient.

37. Group AB (IV) is characterized by:
a. can receive from all groups;
b. can donate to all groups;
c. can donate to group B;
d. is a universal recipient;
e. can donate to group A.

38. The Rh positive population represents the following percentage, with some exceptions:
a. 75%;
b. 65%;
c. 95%;
d. 85%;
e. 80%.

39. About Rh antigen one can say:
a. usually, there are not anti-Rh homologous agglutinins;
b. anti-Rh agglutinins can be generated through blood transfusions in Rh + Rh- people;
c. anti-Rh agglutinins can be generated by Rh + fetus pregnancy and Rh- mother;
d. anti-Rh agglutinins occur in the fetus immediately after birth;
e. the immune apparatus of the host responds to the agglutinogen D in the same way as to a certain agglutinogen.

40. Rh+ blood transfusion in Rh- individuals determines:
a. the immune apparatus of the host responds to the Rh agglutinogen as to any agglutinogen;
b. platelets are activated;
v. the production of anti Rh antibodies;
d. erythrocytes are activated;
e. lymphocytes are activated.

41. The anti Rh antibodies:
a. do not destroy red blood cells;
b. react with the Rh antigen on the surface of red blood cells;
c. destroy leukocytes;
d. produce hemolysis;
e. produce thermolysis.

42. The functions of blood are:
a. water transport;
b. the transport of nutrients;
c. the maintainance of the body's hydroelectrolytic balance;
d. the body's defence;
e. the lipids’ storage.

43. The functions of blood are:
a. the transport of excretion substances;
b. the transport of respiratory gases;
c. interferes with thermoregulation;
d. intervenes in the excretion of excess substances;
e. provides information on the environment.

44. The organic substances in plasma are:
a. proteins;
b. water;
c. globulins;
d. fibrinogen;
e. albumins.

45. The inorganic substances in plasma are:
a. calcium;
b. chlorine;
c. HCl;
d. sodium;
e. potassium.

46. Hemostasis is characterized by:
a. takes place in 5 times;
b. ensures stopping the blood;
c. ensures the normal body temperature;
d. contributes to stopping bleeding;
e. provides the blood hematogenous function.

The cardiovascular system

1. The heart has the following characteristics:
a. it is the central organ of the cardiovascular system;
b. it is situated in the mediastinum;
c. it is located between the two lungs;
d. it has a quadrilateral shape;
e. it has two atria that communicate with each other.

2. The heart is composed of:
a. straight atria;
b. left atria;
c. left ventricle;
d.right ventricle;
e. four rooms.

4. Atria:
a.communicate with the appropriate ventricle;
b.communicate between them;
c.are separated by the interatrial septum;
d.communicate with the veins which open at their level;
e.communicate with the arteries which open at their level.

5. The right atrioventricular hole is provided with valve:
a.bicuspid;
b.tricuspid;
c.mitral;
d. right atrioventricular;
e. semilunar.

6. The left atrioventricular hole is provided with valve:
a.bicuspid;
b.tricuspid;
c.mitral;
d. left atrioventricular;
e. semilunar

7. In the left atrium open:
a.superior vena cava;
b.right pulmonary veins;
c.lower vena cava;
d.left pulmonary veins;
e.vena azygos.

8. On the basis of the left ventricle there is:
a. the pulmonary trunk hole;
b. the left atrioventricular hole;
c.tricuspid valve;
d.aorta hole;
e.upper vena cava hole;

9. On the basis of the right ventricle there is:
a. aorta hole;
b.bicuspid valve;
c. the right atrioventricular hole;
d. the pulmonary trunk hole;
e.mitral valve.

10. The pulmonary artery hole is provided with:
a.semilunar valves;
b.tricuspid valve;
c.concave valves towards artery;
d.valves that close in the ventricular diastole;
e.valves that open in the ventricular systole;

11. The aortic orifice is provided with:
a. semilunar valves;
b.tricuspid valve;
c. concave valves towards artery;
d.valves that close in the ventricular diastole;
e.valves that open in the ventricular systole;

12. The layers of the heart are:
a.epicardium;
b.serous pericardium;
c.myocardium;
d.endocardium;
e.fibrous pericardium;

13. The pericardium is characterized by:
a.it is the coverage of the heart;
b.it has a muscle foil;
c.the serous foil is also called endocardium;
d.it is above the epicardium;
e.consists of smooth muscle fibres.

14. Choose the correct statements:
a.atria are in communication with each other;
b.ventricles are separated by the interventricular septum;
c.atria communicate with the ventricles on the same side;
d.the left half of the heart contains oxygenated blood;
e.the right half of the heart contains non-oxygenated blood.

15. The endocardium:
a.covers the heart chambers;
b.continues with large vessel endothelium;
c.is an epithelial membrane;
d.is above the myocardium;
e.belongs to the pericardium.

16. The myocardium is characterized by:
a.it is the thickest layer of the heart;
b.it is located below the endocardium;
c.it is vascularized by the coronary arteries;
d.consists of two types of muscle cells,
e.constitutes the middle layer of the heart.

17. The myocardium includes the following types:
a.contractile;
b.embryonic;
c.of reception;
d.adult;
e.smooth.

18. The cardiac muscle is characterized by:
a.it has the muscle fibers inserted in the fibrous skeleton of the heart;
b.it has double innervation: somatic and vegetative;
c.it has parasympathetic innervation provided by the vagus nerve;
d.it has sympathetic innervation which increases the contractile force of the heart;
e.it consists of three categories of muscle cells.

19. The atrioventricular node has the following characteristics:
a.continues with the His bundle;
b.gives the nodal rhythm to the heart;
c.functions only if the SA node is damaged;
d.determines contractions at a rate of 40 / min;
e.gives the junctional rhythm to the heart;.

20. Morphologically, the nodal tissue consists of the following structures:
a.the SA node;
b.the SV node;
c.the atrioventricular node;
d. the His bundle;
e. Purkinje network.

21. The sinoatrial node is characterized by:
a.it is located in the right atrium;
b.it continues with the atrioventricular bundle;
c.it is located in the vicinity of spilled upper vena cava;
d.determines the sinus rhythm of the heart,
e.discharges pulses with a frequency of 70 / min.

22. The atrioventricular node has the following characteristics:
a.leaves from the sinoatrial node;
b.is divided into two branches;
c.functions permanently in parallel with the sinoatrial node;
d.does not normally occur;
e.occurs solely on injury of the sinoatrial node.

23. Purkinje network:
a.leaves from the atrioventricular node;
b.is found in ventricular walls;
c.continues the His bundle;
d.determines the sinus rhythm of the heart;
e.determines contractions at a rate of 25 / min

24. The His bundle:
a.leaves from the atrioventricular node;
b.is found in ventricular walls;
c.continues with Purkinje network;
d.transmits the idio-ventricular rhythm to the heart;
e.determines contractions at a rate of 40 / min

25. The arterial vascularization of the heart is characterized by:
a.it is provided by the coronary arteries;
b.it consists of branches from the descending aorta;
c.arterial collaterals are of terminal type;
d.it consists of two arteries originating from the ascending aorta;
e.the arterial bundle branch block causes necrosis of the respective territory.

26. The functional heart rate:
a.is determined by the SA node;
b.can be modified by extrinsic factors;
c.is accelerated by the sympathetic system;
d.is decreased by the parasympathetic system;
e.is amended only by intrinsic factors;

27. In the left atrium open:
a.two right pulmonary veins;
b.two left pulmonary veins;
c.upper vena cava;
d.lower vena cava;
e.coronary sinus.

28. In the right atrium open:
a. upper vena cava;
b.lower vena cava;
c.venous coronary sinus;
d.two right pulmonary veins;
e.two left pulmonary veins;

29. The atrioventricular valves:
a.are two in number;
b.the left one is the mitral valve;
c.the right one is the tricuspid valve;
d.open during ventricular systole;
e.close in the ventricular diastole.

30. The atrioventricular valves are characterized by:
a.allow blood to pass from the atria to the ventricles;
b.open when the intraatrial pressure exceeds the ventricular pressure;
c.allow blood movement in both directions;
d.close during ventricular diastole;
e.open in atrial systole.

31.The semilunar valves of the aorta:
a.open during ventricular systole;
b.allow expulsion of blood in ventricles;
c.close in the ventricular diastole;
d.allow blood return in the ventricles;
e.open when the pressure in the ventricles exceeds that of the arteries;

32. The systolic output is:
a.the volume of blood expelled by the heart in a systole;
b.a blood flow equal to the diastolic outflow;
c.the blood flow ejected by each ventricle in one minute;
d.about 75 ml blood;
e.the sequence of a systole and a diastole.

33. The normal heart rate per minute is:

a.70 beats;
b.60 beats;
c.80 beats;
d.75 beats;
e.85 beats.

34. The normal heart rate:
a.is caused by the atrioventricular node;
b.is determined by the SA node;
c.can be modified by external factors;
d.is of 70-80 contractions per minute
e.is called tachycardia.

35. The mechanical movements of the myocardium are rendered by:
a.heart beats;
b.apex beat;
c.venous pulse;
d.arterial pulse;
e.electroencephalogram.

36. Heart rate is decreased by:
a.noradrenalin;
b.vagus nerve;
c.thyroxine;
d.low temperature;
e.acetylcholine.

37. Tachycardia is caused by:
a.thyroid hormones;
b.adrenaline;
c. acetylcholine;
d.medulloadrenal hormones;
e.elevated temperatures.

38. Bradycardia:
a.is determined by acetylcholine;
b.can be determined by the cold;
c.is driven by adrenaline;
d.represents the decrease in heart rate below 70 contractions / min
e.represents the increase in heart rate above 80 contractions / min

39. The cardiac automatism centers are located in:
a.the sinoatrial node;
b.the atrioventricular node;
c.His bundle;
d.endocardium;
e.adult myocardium.

40. The sinoatrial node:
a.discharges fast frequency pulses;

b.discharges pulses with a frequency of 90 / min;
c.is normally seen initiating heart contractions;
d.comes into action only when the atrioventricular node is harmed;
e.transmits the nodal or junctional rhythm to the heart;

41. Choose the correct statements:
a. heart rate is driven by the SA node;
b.the heart normally beats in sinus rhythm;
c.the atrioventricular node gives the idioventricular rhythm;
d.His bundle imprints the nodal rhythm;
e.the atrioventricular valves require blood movement in one direction, from the ventricles to the atria.

42. The atrioventricular node:
a.is located in the right atrium;
b.gives the nodal rhythm to the heart;
c.gives the junctional rhythm to the heart;
d.discharges pulses with a frequency of 40 / min.
e.continues the SA node.

43. The acoustic myocardial movements are:
a.apex beat;
b.heart beat I;
c.apex of heart beat;
d.arterial pulse;
e. heart beat II;

44. His bundle:
a.has a download frequency of 25 pulses / min;
b.can command the heart only in the case of atrioventricular leading discontinuation;
c.continues the sinus node;
d.consists of vagal fibers;
e.gives the idio-ventricular rhythm to the heart.

45. The cardiac output increases:
a.during sleep;
b.in hemorrhages;
c.in pregnancy;
d.in fever;
e.on exertion.

46. The cardiac output decreases:
a.during sleep;
b.in hemorrhages;
c.in transfusions;
d.in fever;
e.on exertion.

47. The pump function of the heart:
a.is determined by the properties of the heart muscle;

b.is determined by the existence of the semilunar valves;
c.is determined by the properties of the adult myocardium;
d.is determined by the properties of the endocardium;
e.may be considered using the cardiac output.

48. The common properties of the myocardium with the nervous tissue are:
a.excitability;
b.conductibility;
c.contractility;
d.plasticity;
e.automatism.

49. Cardiac noise I is characterized by the following:
a.it is short;
b.it has a low tonality;
c.it is the systolic noise;
d.it is produced by the closure of the atrioventricular valves;
e.it is produced by the myocardium vibration at the beginning of ventricular systole.

50. Cardiac noise II is characterized by the following:
a.it is longer;
b.it is the diastolic noise;
c.it is more acute;
d.it is less intense;
e.it is produced by the closure of the semilunar valves of the aorta and pulmonary valves.

51. The vascular tree has two territories:
a.high circulation;
b.low circulation;
c.systemic circulation;
d.pulmonary circulation;
e.small or lymphatic circulation.

52. The vascular tree consists of:
a.arteries;
b.veins;
c.lymphatics;
d.capillaries;
e.heart.

53. The low circulation is characterized by:
a.is also called systemic circulation;
b.starts in the right ventricle;
c.the four pulmonary veins open into the right atrium;
d.the pulmonary trunk goes from the right ventricle;
e.carries CO_2 blood to the lungs.

54. The pulmonary artery trunk:
a.begins in the right ventricle;
b.carries blood loaded with oxygen to the lungs;

c.ends in the lungs, around the air cells;
d.gives rise to the right pulmonary artery;
e.gives rise to the left pulmonary artery.

55. Pulmonary arteries:
a.end with the capillary network around the air cells;
b.are two for each lung;
c.come from the right ventricle;
d.penetrate through the lung;
e.carry non-oxygenated blood.

56. Pulmonary veins:
a.carry oxygenated blood to the heart;
b.are two for each lung;
c.end into the right atrium;
d.carry non-oxygenated blood;
e.are formed from the capillary network surrounding the air cells.

57. About the large circulation we can say the following:
a.it starts from the left ventricle;
b.it starts from the aorta;
c.it is also called systemic circulation;
d.the arteries transport blood carrying nutrients to the tissues;
e.cava veins open into the left atrium.

58. About the systemic circulation we can say the following:
a.arteries carry O2 blood to the tissues;
b.veins carry CO2 blood to the heart;
c.ends into the right atrium;
d. the arteries transport blood carrying nutrients to the tissues;
e.represents small circulation.

59. Arteries are characterized by:
a.are vessels through which blood flows from the heart to the tissues;
b.are vessels through which blood flows from the organs to the heart;
c.have a small gauge;
d.carry blood from the heart to the periphery;
e.the sense of blood flow is centripetal.

60. The aortic system is characterized by:
a.consists of the aorta;
b.consists of the aorta branches;
c.vascularizes all tissues and organs;
d.is the largest vascular system;
e.begins from the right ventricle.

61. The aorta is characterized by the following:
a.starts in the left ventricle;
b.carries blood loaded with carbon dioxide;
c.carries blood loaded with nutrients;

d.carries blood to the tissues;
e.carries blood to the organs.

62. Aorta has the following characteristics:
a.has an upward section from which coronary arteries are drawn;
b.the ascending aorta continues with the descending aorta;
c.terminal, the descending aorta splits up into internal and external illac arteries;
d.terminal, the descending aorta continues with joint illac arteries;
e.has the aortic arch from which the internal carotid arteries fall off.

63. Characteristics of the aorta:
a.after 5-6 cm the ascending aorta bends;
b.the ascending aorta continues with the aorta arch;
c.the aorta arch continues with the descending aorta;
d.the descending aorta has two segments: thoracic and pelvic;
e.the coronary arteries detach from the aorta arch.

64. The descending aorta has the following segments:
a.thoracic;
b.cervical;
c.abdominal;
d.pelvic;
e.phrenic.

65. The branches of the aortic arch are:
a.the right common carotid artery;
b.the left common carotid artery;
c.the right subclavian artery;
d.the brachycephalic arterial trunk;
e.the left subclavian artery.

66.The brachycephalic arterial trunk:
a.starts from the ascending aorta;
b.gives rise to the left common carotid artery;
c. gives rise to the right common carotid artery;
d.gives rise to the left subclavian artery;
e.gives rise to the right subclavian artery.

67. The common carotid arteries:
a.are two in number;
b.give rise to the internal carotid artery;
c.give rise to the external carotid artery;
d.both arise from the aortic arch.
e.penetrate the skull irrigating the brain and the eye.

68. The internal carotid artery:
a.penetrates the skull;
b.irrigates the spinal cord;
c.vascularizes the neck;
d.irrigates the brain and the eye.

e.is a branch of external carotid artery.

69. The subclavian arteries:
a.start from the ascending aorta;
b.continue with the axillary artery;
c.continue with the external carotid artery;
d.vascularize the anterolateral wall of the thorax.
e.give rise to the vertebral artery which enters the skull.

70. The vertebral artery:
a.enters the skull through the occipital foramen;
b.is located in the front of the neck;
c.joins the vertebral artery on the opposite side;
d.vascularizes the encephalon;
e.is a branch of the common carotid artery.

71. From the subclavian artery emerge the arteries:
a.vertebral;
b.internal thoracic;
c.external carotid;
d.internal carotid;
e.fore intercostals.

72. The axillary artery is characterized by:
a.vascularizes the axilla walls;
b.continues with the subclavian artery;
c.continues with the brachial artery;
d.on the right it emerges from the brachycephalic arterial trunk;
e.on the left it emerges from the aortic arch.

73. The brachial artery:
a.continues the carotid artery;
b.vascularizes the arm;
c.is the most voluminous artery of the limbs;
d.continues the axillary artery;
e.continues the subclavian artery.

74. The brachial artery continues with:
a.the radial artery;
b.the ulnar artery;
c.the palmar arches;
d.the subclavian artery;
e.the forearm arteries.

75. The hand arteries:
a.emerge from radial arteries;
b.are represented by palmar arches;
c.give rise to digital arteries;
d.emerge from ulnar artery;
e.are solely on the back of the hand.

76. The abdominal aorta branches are:
a.the coeliac trunk;
b.the upper mesenteric artery;
c.the hepatic artery;
d. the lower mesenteric artery;
e.the kidney arteries.

77. The following arteries emerge from the abdominal aorta:
a.right gastric;
b.esophageal;
c.testicular;
d.splenic;
e.ovarian.

78. The following arteries emerge from the abdominal aorta:
a.right gastric;
b.esophageal;
c.upper mesenteric;
d.splenic;
e.lower mesenteric;

79. The coeliac trunk is divided into the arteries:
a.splenic;
b.right gastric;
c.left hepatic;
d.left gastric;
e.pancreatic.

80. The coeliac trunk vascularizes the following organs:
a.stomach;
b.kidneys;
c.duodenum;
d.pancreas;
e.liver.

81. The upper mesenteric artery carries blood to:
a.jejuno-ileum;
b.caecum;
c.ascending colon;
d.descending colon;
e.rectum.

82. The upper mesenteric artery carries blood to:
a.descending colon;
b.the right side of transverse colon;
c.stomach;
d.the left side of transverse colon;
e.ascending colon.

83. The lower mesenteric artery carries blood to:
a.the left side of transverse colon;
b.descending colon;
c.kidney;
d.sigmoid colon;
e.lower side of the rectum.

84. The lower mesenteric artery carries blood to:
a.duodenum;
b.adrenal gland;
c.sigmoid colon;
d.upper side of the rectum;
e.jejuno-ileum

85. The abdominal aorta branches are divided into:
a.visceral;
b.parietal;
c.internal;
d.articular;
e.external.

86. The visceral branches of the abdominal aorta are the arteries:
a.renal;
b.testicular;
c.ovarian;
d.coeliac trunk;
e.right hepatic.

87. The terminal branches of the aorta are the arteries:
a.right common iliac;
b.left common iliac;
c.lateral sacral;
d.upper mesenteric;
e.lower mesenteric.

88. The common iliac arteries:
a.emerge from the ascending aorta;
b.give rise to the external iliac artery;
c.give rise to the internal iliac artery;
d.are the final branches of the abdominal aorta;
e.give rise to the femoral artery.

89. The external iliac artery is characterized by:
a.emerges from the pelvis;
b.continues with the femoral artery;
c.goes to the back of the thigh;
d.continues the internal iliac artery;
e.emerges from the common iliac artery.

90. The femoral artery is characterized by:
a.is located on the front of the thigh;
b.continues with the popliteal artery;
c.continues the internal iliac artery;
d.is divided into anterior and posterior tibial arteries;
e.goes to the back of the thigh;

91. The popliteal artery is characterized by:
a.is located on the back of the knee;
b.is located on the front of the knee;
c.continues with the femoral artery;
d.is divided into anterior and posterior tibial arteries;
e.is located in the popliteal fossa.

92. The anterior tibial artery:
a.continues the popliteal artery;
b.irrigates the front of the shin;
c.continues with the leg dorsal artery;
d.continues with the internal plantar artery;
e.continues the femoral artery.

93. The posterior tibial artery:
a.originates in the popliteal artery;
b.irrigates the back of the shin;
c.gives rise to the internal plantar artery;
d. gives rise to the external plantar artery;
e. continues the femoral artery.

94. The internal iliac artery carries blood to:
a.the urinary bladder;
b.the last section of the rectum;
c.the kidney;
d.ascending colon;
e.descending colon.

95. The internal iliac artery carries blood into the male:
a.uterus;
b.scrotum;
c.prostate;
d.external genital organ;
e.testicle.

96. The internal iliac artery carries blood into the woman:
a.prostate;
b.uterus;
c.seminal bladders;
d.vagina;
e.ovary.

97. The venous system of the great circulation is represented by the following veins:
a.upper vena cava;
b.lower vena cava;
c.pulmonary;
d.right lymphatic;
e.chest duct.

98. The upper vena cava is characterized by:
a.belongs to the great circulation;
b.ends in the left atrium;
c.joins the upper cava artery;
d.the azygos vein participates in its formation;
e.collects venous blood from the organs located above the heart.

99. The upper vena cava collects blood from:
a.brain;
b.stomach;
c.heart;
d.head;
e.neck.

100. The upper vena cava collects blood from:
a.lower limbs;
b.neck;
c.upper limbs;
d.liver;
e.stomach.

101. Through the azygos system the upper vena cava collects venous blood from:
a.intercostal spaces;
b.esophagus;
c.bronchia;
d.stomach;
e.liver.

102. Through the azygos system the upper vena cava collects venous blood from:
a.pericardium;
b.diaphragm;
c.heart;
d.pharynx;
e.lungs.

103. The subclavian veins collect blood from:
a.arm;
b.forearm;
c.hand;
d.armpit;
e.neck.

104. The upper vena cava is formed by the union of the following veins:
a.internal jugulars;
b.subclavian;
c.right brachycephalic;
d.left brachycephalic ;
e.external jugulars.

105. The brachycephalic vein is formed by the union of the following veins :
a.internal jugular;
b.subclavian;
c.internal carotid;
d.upper vena cava;
e.azygos.

106. The venous blood of the upper limb is collected by:
a.two venous systems;
b.a deep venous system;
c.a superficial venous system;
d.thoracic channel;
e.azygos veins.

107. The porta vein is formed by joining the following veins:
a.upper mesenteric;
b.lower mesenteric;
c.splenic;
d.hepative;
e.pancreatic.

108. The deep veins of the limbs:
a.join the arteries;
b.bear the same name as the arteries they accompany;
c.flow into the deep veins;
d.at their level intramuscular injections are made;
e.represent the main venous system of the upper limb.

109. The superficial veins of the limbs:
a.flow into the deep veins;
b.join the arteries;
c.are located under the skin and can be seen with the naked eye;
d. bear the same name as the arteries they accompany;
e. at their level intravenous injections are made.

110. The lower vena cava collects blood from:
a.the lower limbs;
b.the basin walls;
c.the basin viscera;
d.kidneys;
e.upper limbs.

111.The lower vena cava is formed by joining the following veins:
a.right common iliac;
b.internal iliacs;
c.external iliacs;
d.left common iliac;
e.internal jugulars.

112. The lower vena cava collects the venous blood from:
a.kidneys;
b.adrenal glands;
c.testicle;
d.spleen;
e.ascending colon.

113. The lower vena cava collects the venous blood from:
a.ovary;
b.the posterior wall of the abdomen;
c.liver;
d.pancreas;
e.descending colon.

114. The internal iliac artery is characterized by:
a.has parietal branches for basin walls;
b.has visceral branches for the organs in the basin;
c.has visceral branches for genitalia;
d.emerges from the common iliac artery;
e.continues with the femoral artery.

115. The internal iliac vein collects blood from:
a.the ovary;
b.the ascending colon;
c.the descending colon;
d.urinary bladder;
e.uterus.

116. The external iliac vein is characterized by:
a.continues with the internal iliac vein;
b.continues the femoral vein;
c.forms the common iliac vein together with the opposite side vein;
d.continues with the common iliac vein;
e.carries blood from the lower limb.

117. The lower limb has the following types of veins:
a.deep;
b.superficial;
c.internal and external;
d.the deep ones accompany the homonymous arteries;
e.the superficial ones flow into the deep ones.

118. The lower vena cava has the following characteristics:
a.goes up to the left of the spine;
b.passes through the diaphragm;
c.ends into the right atrium;
d.receives porta vein;
e.gathers the venous blood from the organs located above the heart.

119. Porta vein is characterized by:
a.belongs to the great circulation;
b.carries blood loaded with nutrients to the liver;
c.carries blood loaded with substances resulting from intestinal absorption to the liver;
d.receives the hepatic veins;
e.ends in the liver.

120. The venous blood of the liver:
a.is transported into the inferior vena cava;
b.is transported from the liver via the hepatic veins;
c.is brought to the liver by the porta vein;
d.is transported into the upper mesenteric vein;
e. is transported into the lower mesenteric vein.

121. The blood moves:
a. in closed circuit;
b.in one sense;
c.in all senses;
d.in open circuit;
e.in heart-related circuits;

122. The vascular tree consists of:
a.arteries-vessels through which blood flows to the organs;
b.arteries-vessels through which blood comes from the heart;
c.arteries-vessels through which blood circulates to the tissues;
d.very small capillaries vessels;
e.veins-vessels placed between the heart and veins;

123.Capillaries are:
a.vessels through which blood comes from the heart;
b.very small-sized vessels;
c.vessels placed between arteries and veins;
d.vessels through which blood flows to the organs;
e.vessels at the level of which gas exchange is produced;

124. About veins one can say the following, excepting:
a.they are vessels through which blood comes to the heart;
b.they are vessels at the level of which nutritive exchanges between blood and tissues are made;
c.they are vessels at the level of which gaseous exchanges between blood and tissues are made;
d.they are vessels arriving to the heart;
e.they are vessels leaving from the heart to the organs (lungs);

125.Arteries are vessels through which blood flows:
a.from the heart to the periphery;
b.from the periphery to the heart;
c.from the heart to the organs;
d.from the heart to the tissues;
e.they are very small-sized;

126.Arteries are vessels through which blood flows:
a.from the heart to the periphery with O2;
b.from the periphery to the heart with CO2;
c.from the heart to the organs with CO2;
d.from the heart to the tissues with O2;
e.they are very small-sized;

127.The functional properties of the arteries are:
a.elasticity;
b.contractility;
c.rhythmicity;
d.plasticity;
e.excitability;

128.The functional properties of the arteries are the following, excepting:
a.rhythmicity;
b.excitability;
c.elasticity;
d.plasticity;
e.contractility;

129.Elasticity represents the property of:
a.large arteries;
b.the arteries to relax when blood pressure increases;
c.returning to the initial gauge when the pressure decreased;
d.small and medium arteries;
e.blood vessels;

130.Large arteries:
a.diminish the shock wave;
b.store a part of the energy produced by the shock wave;
c.restores in the diastole the energy stored during systole;
d.can alter the lumen diameter by relaxing striated muscles;
e.have the property to contract the striated muscles found in their walls;

131.The contractility of the vessels:
a.is the property of the vessels to alter lumen diameter significantly by the contraction of smooth muscles in their wall;
b. is the property of the vessels to alter lumen diameter significantly by the contraction of striated muscles in their wall;
c.allows a fine control of the distribution of blood to various organs;
d.allows a fine control of the distribution of blood to various tissues;

e. is the property of the vessels to alter lumen diameter significantly by the relaxation of striated muscles in their wall;

132.Contractility:
a.is the feature of large arteries;
b.is the feature of arterioles;
c.consists in the passive change of the gauge;
d.consists in the active change of the gauge;
e.is characteristic of small arteries;

133.Small arteries are characterized by:
a.have smooth muscle fibers in their internal tunic;
b.have striated muscle fibers in their average tunic;
c.have increased vascular resistance;
d.have striated muscle fibers in their internal tunic;
e.have smooth muscle fibers in their average tunic;

134.The main factor of blood flow through the arteries depends on:
a.gravity;
b.the electric activity of the heart;
c.the mechanical activity of the heart;
d.the concentration of some metabolites;
e.ventricular systole;

135.The maximum blood pressure has values of:
a.120 mm Hg;
b.80 mm Hg;
c.130 mm Hg;
d.140 mm Hg;
e.150 mm Hg;

136.The blood flow through the arteries is assessed by measuring:
a.the current volume:
b.blood output;
c.waste volume;
d.blood pressure;
e.resistance to blood flow;

137.The maximum blood pressure is:
a.diastolic;
b.120 mmHg;
c.the same in all the vessels of the circulatory system;
d.systolic;
e.140 mmHg;

138. The minimum blood pressure is:
a.diastolic;
b.70 mm Hg;
c.the same in all the vessels of the circulatory system;
d.80 mmHg;

e.systolic;

139.About the maximum blood pressure one can say the following, except:
a.is called diastolic;
b.is of 120 mm Hg;
c.is the same in all the vessels of the circulatory system;
d.is also called systolic;
e.is of 100 mmHg;

140.Blood pressure:
a.the minimum one is 80 mm Hg;
b.the minimum one is also called diastolic;
c. is assessed by measuring blood pressure;
d.the maximum one is 70 mm Hg;
e.the maximum one is also called diastolic;

141.About the maximum blood pressure one can say the following, except:
a.it is of 120 mm Hg;
b.it is also called diastolic;
c.it can be measured using the sigmomanometer;
d.it is also called systolic;
e.it is of 150 mm Hg;

142.About the minimum blood pressure one can say the following, except:
a.it is of 120 mm Hg;
b.it is also called diastolic;
c.it can be measured using the sigmomanometer;
d.it is also called systolic;
e.it is of 80 mm Hg;

147.One cannot say the following about the systolic pressure, except:
a.is of 120 mm Hg;
b.is also called maximum blood pressure;
c.is also called maximum blood pressure;
d.is also called lower blood pressure;
e.is of 150 mm Hg;

148.One cannot say the following about the diastolic pressure, except:
a.is of 120 mm Hg;
b.is also called minimum venous pressure;
c.is also called lower blood pressure;
d.is also called maximum blood pressure;
e.is of 70 mm Hg;

149.One cannot say the following about the arterial systemic hypertension, except:
a.represents lower blood pressure;
b.determines the increase of cardiac mechanical work;
c.determines the decrease of cardiac mechanical work;
d.has values greater than 130 mm Hg (systolic);
e.has values greater than 90 mm Hg (diastolic);

150.Veins:
a.are vessels through which blood returns to the heart;
b.all veins carry oxygenated blood;
c.has a volume three times greater than the arterial volume;
d.has 75% of blood volume;
e.all veins carry blood with CO2;

151.Veins:
a.are vessels through which blood returns to the heart;
b.through them returns blood with CO2 (from the pulmonary circulation);
c.through them returns blood with O2 (from the pulmonary circulation);
d.through them returns blood with CO2 (from the systemic circulation);
e.all veins carry blood with CO2;

152.Venous return is ensured by the following factors, except:
a.chest aspiration;
b.abdominal pressure during expiration;
c.gravity for the veins below the heart level;
d.cortical impulses;
e.the presence of valves in the veins below the heart level;

153. The factors that determine blood return to the heart are:
a.chest aspiration;
b.the activity of cardiac pump;
c.ventricular aspiration;
d.abdominal pressure during exhalation;
e.the contractions of skeletal muscles;

154.The venous return is ensured by the following factors:
a.chest aspiration;
b.abdominal pressure;
c.gravity;
d.cortical impulses;
e.veins pulsation;

155.The heart draws blood from:
a.upper vena cava;
b.lower vena cava;
c.pulmonary artery;
d.aorta;
e.porta vena;

156. The arteries are the vessels through which blood flows:
a.loaded with CO2;
b.from the heart to the periphery;
c.loaded with O2;
d.from the heart to the lungs;
e.in both ways;

157.The heart draws blood from:
a.the upper vena cava;
b.the pulmonary artery;
c.porta vena;
d.the lower vena cava;
e.aorta;

LYMPHATIC CIRCULATION

1.The lymphatic system has the following features:
a.the venous blood circulates through it;
b.the lymph is part of the body's internal environment;
c.it flows into the arterial circulation;
d.it flows into the venous system;
e.it flows into the porta vena system;

2.The lymphatic system is characterized by:
a.the walls of the lymphatic vessels are thinner than the walls of arteries;
b.its capillaries anastomose with the venous capillaries;
c.it is adapted to the draining function of the lymph throughout the body;
d.the walls of the lymphatic vessels are thicker than the walls of blood vessels;
e.the walls of the lymphatic vessels are thinner than the walls of veins;

3.The lymphatic system is characterized by the following, except:
a.it flows into the venous system;
b.its capillaries anastomose with the venous capillaries;
c.it is adapted to the draining function of the lymph throughout the body;
d.the walls of the lymphatic vessels are thicker than the walls of blood vessels;
e.it brings the cerebrospinal fluid into the blood;

4.One cannot say the following about the lymphatic system, except:
a.it brings the interstitial fluid into the blood;
b.it is part of the circulatory system;
c.it brings the lymph throughout the body into the blood;
d.the walls of the lymphatic vessels are thinner than the walls of veins;
e.it brings the cerebrospinal fluid into the blood.

5.Lymph nodes have multiple functions:
a.produce lymphocytes;
b.produce monocytes;
c.produce red blood cells;
d.of defense (white blood cell production);
e.of defense (phagocytosis);

6.Large lymphatic trunks are characterized by:
a.are two in number;
b.are represented by thoracic duct;
c.pass through the external jugular veins;
d.are represented by the right lymphatic duct;
e.pass through the subclavian veins;

7. Lymph nodes are found in these areas, except:
a.thoracis;
b.cervical;
c.sacral;
d.lumbar;
e.mediastinal;

8.Lymph nodes are not found in the following areas, except:
a.inguinal;
b.cervical;
c.sacral;
d.lumbar;
e.axillary;

9.Lymph nodes do not have the following features, except:
a.are oval structures;
b.are found in the groin;
c.are spindle-like formations;
d.are found in the mediastinal area;
e.are found in the chest;

10.Lymph nodes can be:
a.iliac;
b.thoracis;
c.submandible;
d.inguinal;
e.cervical;

11.Lymph nodes cannot be located in the following areas:
a.cervical;
b.cardiac;
c.hepatic;
d.iliac;
e.submandible;

12.Spleen is characterized by:
a.is an abdominal organ;
b.is a thoracic organ;
c.is located below the diaphragm;
d.is located in the right hypochondrium;
e.is an unpaired organ;

13.Spleen is characterized by:
a.has a variable size;
b.produces platelets;
c.the hemolysis of white blood cells;
d.increases in endocrine diseases;
e.produces monocytes;

14.Spleen has the following roles, except:
a.produces lymphocytes;
b.phagocytes red blood cells;
c.the hemolysis of white blood cells;
d.of defense (production by monocytes);
e.temporary blood reserve (350ml);

15.The roles of the spleen are:
a.produces platelets;
b.phagocytosis of microorganisms;
c.hemoglobin is divided into Fe^{3+} and globulin;
d.the hemolysis of platelets;
e.produces monocytes;

16.Spleen is a blood supply:
a.temporary;
b.permanent;
c.which it removes slowly with little efforts;
d.which it eliminates quickly with intense efforts;
e.which it eliminates by contractions;

17.Spleen is a blood supply:
a.stimulated by contractions;
b.permanent;
c.which it eliminates slowly with intense efforts;
d.temporary;
e.can eliminate about 300-350 ml of blood;

18. The spleen lodge is characterized by:
a.is located between the ascending colon and diaphragm;
b.is located to the right of the liver lodge;
c.is related to the thymus;
d.is located to the left of the liver lodge;
e.is located between the transverse colon and diaphragm;

19.The lymphatic system has the following features:
a.the venous blood circulates through it;
b. the lymph is part of the body's internal environment;
c.finally, the lymph flows into the arterial circulation;
d.finally, the lymph flows into the venous circulation;
e.the cerebrospinal fluid circulates through it.

20.Lymph nodes are characterized by:
a.are situated along the course of lymphatic vessels;
b.the lymph necessarily passes through them;
c.look like nervous ganglions;
d.are oval formations;
e.are located in one area of the body;

21.Lymph nodes have multiple functions:

a.produce lymphocytes;
b.produce monocytes;
c.form antibodies;
d.have a role in the spread of some infections;
e.stop the penetration of foreign substances;

22.Lymph nodes have the following functions:
a.influence lymph circulation;
b.stop the penetration of foreign substances;
c.act as a barrier in the spread of infections;
d.form antigens;
e.have a defensive role (by phagocytosis);

23.Large lymphatic trunks are characterized by:
a.gather the lymph throughout the body;
b.drain the lymph in the venous circulation;
c.start in the right ventricle;
d.also drain the cerebrospinal fluid;
e.is under voluntary control;

24.The thoracic duct:
a.is the largest lymphatic collector;
b.goes up the spine;
c.is located above the aorta;
d.passes through the diaphragm;
e.starts with a narrow section – chili tank.

25.The thoracic duct:
a.has a length of 25-30 cm;
b.starts at the level of the L2 vertebra;
c.has valves on the outside;
d.passes through the diaphragm;
e.goes up above the aorta.

26.The thoracic duct opens, except:
a.left atrium;
b.right atrium;
c.in the venous angle between the internal jugular vein and the left subclavian vein;
d.lower vena cava;
e.upper vena cava;

27. The thoracic duct gathers the lymph from:
a.the right lower limb;
b.the left upper quarter of the body;
c.the right upper limb;
d.the left lower limb;
e. the right upper quarter of the body;

28.The right lymphatic vein:
a.has a length of 1-2 cm;

b.gathers the lymph from the left upper quarter of the body;
c.carries venous blood;
d.gathers the lymph from the right upper quarter of the body;
e.goes up above the spine;

29. The right lymphatic vein ends, except:
a.in the venous angle between the internal jugular vein and the left subclavian vein;
b.right atrium;
c. in the venous angle between the internal jugular vein and the right subclavian vein;
d.lower vena cava;
e.upper vena cava.

30.Spleen is characterized by:
a.is an abdominal organ;
b.is an unpaired organ;
c.is part of the spleen lodge;
d.is located in the right hypochondrium;
e.is located above the diaphragm;

31.Spleen produces the hemolysis of:
a.red blood cells;
b.platelets;
c.antibodies;
d.lymphocytes;
e.monocytes;

32.Spleen produces:
a.monocytes;
b.lymphocytes;
c.red blood cells before birth;
d.platelets;
e.antigens;

33.Among the lymphoid organs are found the following:
a.thymus;
b.lymph nodes;
c.annexe glands of the digestive tract;
d.spleen;
e.tonsils;