Questions to Step (Tissue)

1. A scheme presents an exocrine gland that has unbranched excretory duct with a terminal part in form of a saccule opening into the duct. How is this gland called according to the morphological classification of exocrine glands?
   A. Simple unbranched alveolar.
   B. Compound branched alveolar.
   C. Simple branched tubular.
   D. Compound unbranched alveolar.
   E. Compound unbranched alveolar tubular.

2. A patient has changes of epithelium observed after prolonged inflammation of nasal cavity mucosa. What epithelium has changed?
   A. Pseudostratified.
   B. Simple squamous.
   C. Stratified squamous.
   D. Stratified cuboidal.
   E. Stratified columnar.

3. Pleural fiction rub of a patient with dry pleuritis is being auscultated. What epithelium is damaged?
   A. Simple squamous.
   B. Simple cuboidal.
   C. Simple columnar.
   D. Transitional.
   E. Stratified.

4. A malignant epithelial tumor of the pericardium of a 53-year-old man has been diagnosed. What epithelium is a source of its development?
   A. Simple squamous.
   B. Pseudostratified.
   C. Transitional.
   D. Stratified keratinized.
   E. Stratified non-keratinized.

5. Diphtheritic croup arises in consequence of thickening on true vocal folds of fibrin films closely connected with epithelium. With what epithelium is vocal folds mucosa lined?
   A. Stratified squamous non-keratinized.
   B. Stratified squamous keratinized.
   C. Pseudostratified columnar ciliated.
   D. Simple squamous.
   E. Simple cuboidal.

6. Experimentally the structures of tight contact between epithelial cells have been disturbed. What function of epithelium will be damaged?
   A. Mechanical.
   B. Suction.
   C. Vitamin D producing.
   D. Secretory.
   E. Excretory.

7. In course of a conditional experiment the development of mesenchyma cells was completely inhibited. Development of the following muscular tissue will be disturbed:
   A. Smooth muscular tissue.
B. Neural muscular tissue.
C. Epidermal muscular tissue.
D. Skeletal muscular tissue.
E. Cardiac muscular tissue.

8. A microspecimen of the submandibular salivary gland shows some basket-shaped cells concentrated around the acines and excretory ducts. These cells surround bases of the serous cells and are called myoepitheliocytes. These cells relate to the following tissue:
A. Muscular tissue.
B. Neural tissue.
C. Epithelial tissue.
D. Loose fibrous connective tissue.
E. Special connective tissue.

9. The main structural unit of the tissue on histological specimen is fibers consisting of simplast and satellitocytes covered with common basic membrane. Which tissue is this structure characteristic of?
A. Skeletal striated muscle tissue.
B. Smooth muscle tissue.
C. Cardiac muscle tissue.
D. Loose connective tissue.
E. Reticular connective tissue.

10. In a figure a structural unit of striated muscles myofibrils - sarcomere, which is placed between two neighboring Z lines, is schematically represented. How will the H-zone of the sarcomere change at maximum reduction?
A. Disappears.
B. Does not change.
C. Increases by 2 times.
D. Decreases by 2 times.
E. Takes up all sarcomere.

11. Patient with injured muscles of the lower extremities was admitted to the traumatological department. Due to what cells is reparative regeneration of the muscle fibers and restoration of the muscle function possible?
A. Satellite-cells.
B. Myoblasts.
C. Myoepithelial cells.
D. Fibroblasts.
E. Myofibroblasts.

12. Destruction of thin myofilaments is observed during the research of a striated muscle fiber after the action of hydrolytic ferments. Which structures have been damaged?
A. Actin myofilaments.
B. Tonofibrils.
C. T-systems.
D. Sarcoplasmic reticulum.
E. Myosin myofilaments.

13. Following exposure to radiation a lot of mutant cells appeared in a patient. Some time later most of them were detected and destroyed by the following cells of the immune system:
A. T-lymphocytes-killers.
B. B-lymphocyte.
C. Plasmoblast.
D. Stem cells.
E. T-lymphocytes-suppressors.

14. A 70-year-old patient suffers from atherosclerosis complicated by the lower limb thrombosis that has caused gangrene on his left toes. What is the most likely cause of the thrombosis origin?
A. Thrombocyte adhesion.
B. Transformation of prothrombin into thrombin.
C. Impaired heparin synthesis.
D. Transformation of fibrinogen into fibrin.
E. Prothrombinase activation.

15. A tooth extraction in a patient with chronic persistent hepatitis was complicated with prolonged hemorrhage. What is the reason for the haemorrhagic syndrome?
A. Decrease in thrombin production.
B. Fibrinolysis intensification.
C. Increase in thromboplastin production.
D. Increase in fibrinogen synthesis.
E. Decrease in fibrin production.

16. Blood sampling for bulk analysis is recommended to be performed on an empty stomach and in the morning. What changes in blood composition can occur if to perform blood sampling after food intake?
A. Increased contents of leukocytes.
B. Increased contents of erythrocytes.
C. Increased plasma proteins.
D. Reduced contents of thrombocytes.
E. Reduced contents of erythrocytes.

17. Examination of a 43 y.o. anephric patient revealed anemia symptoms. What is the cause of these symptoms?
A. Reduced synthesis of erythropoietins.
B. Folic acid deficit.
C. Vitamin B12 deficit.
D. Iron deficit.
E. Enhanced destruction of erythrocytes.

18. Anemia of a 50-year-old patient with chronic nephritis has developed. What is the main reason for this?
A. Reduction of erythropoietin production.
B. Absence of the gland.
C. Absence of vitamin B12.
D. Disorder of porphyrin synthesis.
E. Immunologic damage of immature cells of erythropoiesis.

19. In the red bone marrow during postembryonal hemopoiesis in the cells of a differon cytoplasmic basophilia gradually decreases, oxyphilia increases, nucleus is pushed out. What type of hemopoiesis has these morphologic changes?
A. Erythropoiesis.
B. Lymphopoiesis.
C. Neutrophilopoiesis.
D. Eosinophilopoiesis.
20. Hemoglobin quantity has decreased in blood. Which function of blood is disordered in this case?
A. Gases transport.
B. Hormones transport.
C. Providing immunity.
D. Coagulation.
E. Nutritive materials transport.

21. Clinical blood analysis of a patient with pneumonia has shown the increase of the leukocytes total amount. How is this phenomenon called?
A. Leukocytosis.
B. Anemia.
C. Leukopenia.
D. Anisocytosis.
E. Poikilocytosis.

22. 20% of spherical, flat, plane, and branched erythrocytes have been detected in the blood of a 26-year-old man. The other erythrocytes are of biconcave discoid shape. How is such phenomenon called?
A. Physiological poikilocytosis.
B. Pathological poikilocytosis.
C. Physiological anisocytosis.
D. Pathological anisocytosis.
E. Erythrocytosis.

23. In blood of a patient there were discovered 14.5% of erythrocytes of more than 8 micrometers in diameter, 15.5% of erythrocytes up to 6 micrometers, the other - 7.1-7.9 micrometers in diameter. How is this phenomenon called?
A. Anisocytosis.
B. Erythropenia.
C. Physiological poikilocytosis.
D. Pathological poikilocytosis.
E. Erythrocytosis.

24. Punctata hemorrhage was found out in the patient after application of a tourniquet. With dysfunction of what blood cells is it connected?
A. Lymphocytes.
B. Eosinophiles.
C. Neutrophiles.
D. Monocytes.
E. Platelets.

25. Megalocytes may appear in human peripheral blood. When is their quantity in blood normal?
A. During embryonic period.
B. Up to 1 year old.
C. From 1 year to 30 years.
D. During elderly period.
E. During pregnancy.

26. A large cell with low-basophilic cytoplasm and bean-like nucleus is observed in a peripheral blood smear. The cell is the largest among other ones in this specimen. What is this cell?
A. Monocyte.
27. 20% of large (20 micrometers in diameter) spherical cells with low-basophilic cytoplasm and bean-like nucleus are observed in a Romanovsky's blood stain. Clinically this phenomenon is characterized as:
A. Monocytosis.
B. Lymphocytosis.
C. Leukopenia.
D. Neutrophiliccytosis.
E. Reticulocytosis.

28. In a peripheral blood smear some round cells with segmented nuclei prevail among leukocytes. Minute granulosity in their cytoplasm is dyed both with acid and basic coloring agents. How are these cells called?
A. Segmentonuclear neutrophils.
B. Basophils.
C. Eosinophils.
D. Young neutrophils.
E. Monocytes.

29. A patient, a nurse by profession, complains of increasing hands' skin itching and appearance of vesicles filled with liquid after a watch in hospital, namely after injecting streptomycin to patients. During the leave disease signs disappear. The increased quantity of which cells can be detected by means of blood analysis?
A. Eosinophilic leukocytes.
B. Basophilic leukocytes.
C. Monocytes.
D. Neutrophilic leukocytes.
E. Lymphocytes.

30. Helminthic invasion of a 6-year-old child is diagnosed. What changes of the leukocytic formula should be expected?
A. Increase of eosinophils quantity.
B. Increase of neutrophiles quantity.
C. Decrease of eosinophils quantity.
D. Increase of monocytes quantity.
E. Increase of lymphocytes quantity.

31. 10% of spherical cells of 4.5-7 micrometers size with large spherical nuclei and basophile colored cytoplasm in the form of a narrow thin edge around the nucleus have been detected in the blood smear of a patient who had had flu. What condition of blood do the cells characterize?
A. Lymphocytopenia.
B. Thrombopenia.
C. Leukopenia.
D. Lymphocytosis.
E. Monocytopenia.

32. During an experiment one of blood cell populations was selectively stimulated. As a result, vascular permeability considerably increased, which caused perivascular tissue edema and blood
coagulation slowing-down. Which cells were stimulated?
A. Basophils.
B. Erythrocytes.
C. Thrombocytes.
D. Eosinophils.
E. Lymphocytes.

33. Research of a blood smear of a patient has shown cells which make 0.5% of the leukocytes total number, have S-shaped nuclei and metachromatically colored granules in cytoplasm. Name these cells.
A. Basophils.
B. Neutrophils.
C. Eosinophils.
D. Monocytes.
E. Lymphocytes.

34. A child has signs of inflammation around a scratch on the skin: pain, reddening, edema - as a manifestation of immediate hypersensitivity reaction. What blood cells predetermine these changes?
A. Basophiles.
B. Eosinophils.
C. Neutrophiles.
D. Lymphocyt.
E. Monocytes.

35. By the results of the analysis of blood spots in the site of a crime a medical expert has detected that it was woman's blood. By what signs is it established?
A. Satellites of nuclei in neutrophils.
B. Microcytes and macrocytes.
C. Poikilocytosis.
D. Specific granules in eosinophils.
E. Erythrocytes quantity.

36. After conducting analysis a laboratory doctor came to an additional conclusion that the blood belongs to a woman. Features of what blood elements ground such conclusion?
A. Neutrophilic leukocytes.
B. Erythrocytes.
C. Lymphocytes.
D. Monocytes.
E. Basophilic leukocytes.

37. The research of a specimen of connective tissue has detected neutrophiles. How do these cells function penetrating from blood into tissues?
A. Phagocytosis of microorganisms.
B. Trophic.
C. Of support.
D. Regulate contraction of smooth myocytes.
E. Dilate blood vessels.

38. Punctata hemorrhage was found out in the patient after application of a tourniquet. With disfunction of what blood cells is it connected?
A. Platelets
B. Monocytes
C. Lymphocytes
39. Live vaccine is injected into the human body. Increasing activity of what cells of connective tissue can be expected?
A. Plasmocytes and lymphocytes.
B. Macrophages and fibroblasts.
C. Pigmentocytes and pericytes.
D. Adipocytes and adventitious cells.
E. Fibroblasts and labrocytes.

40. In a histological specimen of loose connective tissue there have been found relatively large cells filled with basophilic metachromatic granularity. Histochemically it is established that the granules contain heparin and histamine. What are these cells?
A. Mast cells.
B. Fibroblasts.
C. Macrophages.
D. Plasmocytes.
E. Adipocytes.

41. In course of an experiment a big number of stem cells of red bone marrow was in some way destructed. Regeneration of which cell populations in the loose connective tissue will be inhibited?
A. Of macrophags.
B. Of pigment cells.
C. Of pericytes.
D. Of fibroblast.
E. Of lipocytes.

42. A patient's blood stem cells were destructed after radiation exposure. Regeneration of what loose connective tissue cells will be affected?
A. Macrophages.
B. Pigment cells.
C. Adipocytes.
D. Pericytes.
E. Fibroblasts.

43. The microscopic examination of wound lavage of a patient with acute woundy process of his shin revealed big contents of irregular extended-formed cells, with tough nucleus, the basophilic cytoplasm of which includes many lysosomes, phagosomes and pinocytotic bubbles. What cells are found out in the wound?
A. Connecttive tissue macrophages.
B. Fibroblasts.
C. Plasmocyttes.
D. Tissue basophils.
E. Fibrocytes.

44. After myocardial infarction a patient's morphological heart wall integrity was regenerated. Owing to what tissues did the regeneration take place?
A. Connective.
B. Smooth muscle.
C. Striated muscle.
D. Epithelial.
45. Histamine has a leading role in the development of the clinical presentations of allergy. Which cells produce histamine?
   A. Mast cells.
   B. T-lymphocytes.
   C. Macrophages.
   D. B-lymphocytes.
   E. Plasma cells.

46. A sportsman's leg has been injured during training. A traumatologist has diagnosed tendon rupture. What type of connective tissue forms this organ?
   A. Dense regular connective.
   B. Dense irregular connective.
   C. Loose connective.
   D. Reticular.
   E. Cartilaginous.

47. With age human skin undergoes changes, which may declare themselves by reduction of skin elasticity. What structures of connective tissue provide skin elasticity most of all?
   A. Collagen and elastic fibers.
   B. Ground substance.
   C. Cells of epidermis.
   D. Connective tissue cells.
   E. Reticular fibers.

48. During electromicroscopic examination of a hyaline cartilage cells with well-developed granular endoplasmic reticulum and Golgi apparatus are detected. What function is carried out by these cells?
   A. Formation of intercellular substance.
   B. Depositing of glycogen.
   C. Trophicity of cartilaginous tissue.
   D. Deposition of fat.
   E. Destruction of cartilage intercellular substance.

49. The decrease of blood supply of an organ predetermines hypoxia development that activates fibroblasts function. Volume of which elements is increased in this situation?
   A. Intercellular substance.
   B. Microcirculatory vessels.
   C. Nerve elements.
   D. Parenchymatous elements of the organ.
   E. Lymphatic vessels.

50. One of the rules of surgery is performing sections along the so-called lines of Langer (lines of skin tension). What tissue forms the reticular (the strongest) layer of derma?
   A. Dense irregular connective tissue.
   B. Reticular connective tissue.
   C. Loose connective tissue.
   D. Epithelial tissue.
   E. Dense regular connective tissue.

51. Isogeneic groups of cells are being detected in a histological specimen of cartilaginous tissue. Which cells are initial in the organization of these groups?
A. Chondrocytes of the I type.
B. Chondroblasts.
C. Prechondroblasts.
D. Chondrocytes of the II type.
E. Chondrocytes of the III type.

52. Articular cartilages are known not to have perichondrium. What growth of these cartilages is observed during regeneration?
A. Interstitial.
B. Appositional.
C. By imposition.
D. Appositional and interstitial.
E. Does not regenerate.

53. A doctor paid attention to the reinforced resorption of osteal tissue in separate parts when analysing a patient's roentgenogram. What cells' increased activity can this phenomenon be connected with?
A. Osteoclasts.
B. Chondroblasts.
C. Osteocytes.
D. Osteoblasts.
E. Chondrocytes.

54. A patient has excessive resorption of bones detected. With the increased activity of what osteal tissue cells is it connected?
A. Osteoclasts.
B. Osteoblasts and osteoclasts.
C. Osteocytes and osteoblasts.
D. Osteoblasts.
E. Osteocytes.

55. In course of indirect histogenesis of tubular bone tissue a plate is formed between epiphyseal and diaphyseal ossification centres that provides further lengthwise growth of bones. What structure is it?
A. Metaphyseal plate.
B. Osseous plate.
C. Osseous cuff.
D. Osteon.
E. Layer of interior general plates.

56. During the direct histogenesis of tubular bones osteal tissue a plate, which further will provide the growth of bones lengthwise, is formed between epiphysial and diaphyseal centres of ossification. How is this structure called?
A. Metaepiphysial plate.
B. Osseous cuff.
C. Bone lamella.
D. Osteon.
E. A layer of internal general plates.

57. During a conditional experiment the action of a toxic substance enhances the mechanism of nerve impulse transfer. What structure provides this function?
A. Synapse.
B. Neurolemma.
58. A traumatic injury of nerve fibers is accompanied by axons damage, lysis of myelin. What nerve structures take part in myelin reconstruction during regeneration?
A. Neurolemmocytes.
B. Ependimocytes.
C. Perineurium.
D. Endoneurium.
E. Astrocytes.

59. A sensitive neural ganglion consists of roundish neurocytes with one extension that divides into axon and dendrite at some distance from the perikaryon. What are these cells called?
A. Pseudounipolar.
B. Apolar.
C. Bipolar.
D. Multipolar.
E. Unipolar.