1. A 22-year-old female student was consulted by a physician about fever up to 38C, weakness, sore throat. Objectively: there is white coating of the tongue. What histological structures of the tongue are involved in the formation of the coating?

A. Epithellium of the filiform papillae
B. Epithellium of the foliate papillae
C. Epithellium of the fungiform papillae
D. Epithellium of the circumvallate papillae
E. Connective-tissue base of all the lingual papillae

2. Anomaly of the liver development was detected during examination of the patient. What embryonic source was damaged?

A. Endoderm of the middle part of primitive gut
B. Endoderm of the dorsal wall of the primitive gut
C. Foregut of the endoderm
D. Mezonephric duct
E. Endoderm of the hindgut

3. Group of cells are visible in histological slide of the pancreas. Some of them are situated centrally and has basophilic secretory granules. Their secret regulates carbohydrate metabolism. Call these cells.

A. B –cells
B. PP-cells
C. A –cell
D. Adipocytes
E. D-cells

4. Because of present gallstone in the common bile duct, a patient has no bile excretion into duodenum. What disorder can it cause?

A. Lipids digestion
B. Proteins absorption
C. Proteins digestion
D. Carbohydrates digestion
E. Carbohydrates absorption

5. A 30-year-old woman was diagnosed with insufficiency of exocrine function of pancreas. Hydrolisis of what nutrients will be disturbed?

A. Proteins, fats, carbohydrates
B. Fats, carbohydrates
C. Proteins, carbohydrates
D. Proteins, fats
E. Proteins

6. Ultramicroscopical examination of “dark” hepatocyte population in the cell cytoplasm detected a developed granular endoplasmic reticulum. What function has this organelle in these cells?

A. Synthesis of blood plasma proteins
B. Bile production
C. Deintoxicative function
D. Calcium ion depositing
E. Carbohydrate synthesis

7. A microspecimen of the submandibular salivary gland shows some basket-shaped cells concentrated around the acinis 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. Special connective tissue
C. Epithelial tissue
D. Loose fibrous connective tissue
E. Neural tissue

8. Malapsorption of proteins occurs in the patient with acute inflammation of the pancreas (pancreatitis). Due to the lack of synthesis and release of which enzyme this condition occuss?

A. Trypsin
B. Pepsin
C. Lipase
D. Amylase
E. Dipeptidase

9. A specimen of a parenchymal organ shows poorly delineated hexagonal lobules surrounding a central vein, and the interlobular connective tissue contains embedded triads (an artery, a vein and an excretory duct). What organ is it?

A. Liver
B. Pancreas
C. Thymus
D. Spleen
E. Thyroid

10. On the slide of a parenchymal organ we can see: poorly delineated hexagonal lobulessurrounding a central vein, and the interlobular connective tissue containing triads (an artery, a vein and an excretory duct). What organ is it?

A. Liver
B. Pancreas
C. Thymus
D. Spleen
E. Thyroid

11. In histological slide parenchyma of the organ is represented by hexagonal lobules, which consist of anastomosing plates, between which radial sinusoidal capillaries are. What organ has this morphological structure?

A. Liver
B. Pancreas
C. Thymus
D. Spleen
E. Lymph node

12. The patient has a violation of the endocrine function of the pancreas, which is manifested in the decrease of blood level of the hormone glucagon. The function of what gland cells is violated in this case?

A. A-cells of the Langerhans islets
B. B-cells of the Langerhans islets
C. D-cells of the Langerhans islets
D. D1-cells of the Langerhans islets
E. PP-cells of the Langerhans islets

13. In the apical part of cytoplasm of the pancreatic cells the secretory granules appear and disappear in the secretory cycle. To which structural elements granules belong?

A. Inclusions
B. Microfilaments
C. Lysosomes
D. Exocytotic vacuoles
E. Granular endoplasmic reticulum

14. Patient since the 14 years has diabetes. What cells of the pancreas do not function?

A. B – cells
B. A – cells
C. D – cells
D. D1 cells
E. PP – cells

15. 50 years old patient has an elevated level of blood sugar. With dysfunction of which cell development of this disease is associated?

A. B –cells
B. A –cell
C. Thyrocytes
D. Pankreocytes
E. Lipotropocytes

16. Blood circulation in classical lobules is disturbed by proliferation of connective tissue in the parenchyma of the liver (fibrosis) due to chronic disease. What is the direction of movement of the blood in the lobules?

A. From the periphery to the center
B. From the center to the periphery
C. Around the lobules
D. From the top to the bottom
E. From the bottom to the top

17. Certain cells of the pancreas are in a state of tension in people who eat a lot of sweets. What cells are these?

A. B –cells
B. A –cell
C. D-cells
D. PP-cells
E. Acinus

18. Lobules with unclear borders, central vein inside and radially directed trabeculae, are the structural units of some organ. Lobule is limited by interlobular arteries, veins, and bile ducts (triad). Which organ is this?

A. Liver
B. Thyroid gland
C. Pancreas
D. Parotid gland
E. Kidney

19. Extensive damage of the excretory acinar cells is defined in patients after acute pancreatitis. What cells are responsible for the regeneration?

A. Cells of intercalated ducts
B. Cells of islets of Langerhans
C. Cells of intralobular ducts

D. Stromal cells
E. Vascular endothelium

20. Cells forming the wall of the bile capillaries were affected by viral infection. Its created the conditions for the getting of a bile into a blood of sinusoidal capillaries. What cells are damaged?

A. Hepatocytes
B. Kupffer cells
C. Ito-cells
D. Rit- cells
E. Endotheliocytes

21. Well-developed granular endoplasmic reticulum is determined in the cytoplasm of the "dark" hepatocytes during ultramicroscopic study. What is the function of this organelle in these cells?

A. Synthesis of plasma proteins
B. Synthesis of carbohydrates
C. Detoxification
D. Production of bile
E. Storage of calcium ions

22. Granular EPS was destroyed in hepatocytes by the impact of hepatotropic poison. Synthesis of which substances will be broken in the epithelium of the liver?

A. Albumins and fibrinogen
B. Phospholipids
C. Glycogen
D. Cholesterol
E. Vitamins

23. As we know, the submandibular gland has mucous glandular portion, consisting of mucocytes. What features are characteristic for these cells?

A. Flattened nuclei and clear cytoplasm
B. Basophilic cytoplasm
C. Rounded nuclei in the center of the cell
D. Microvilli
E. Basal striation

24. Some diseases of the salivary glands are caused by dysfunction of their excretory ducts. What types of the excretory ducts present in the major salivary glands?

A. Intra-, interlobular ducts and common duct of the gland
B. Lobular, striated and common ducts
C. Intercalated, divided and common ducts
D. Intra- and interlobular ducts
E. Common duct

25. Cell, in cytoplasm of which granules that look like fruit pits (stones) are visible, presented at the electron micrograph of intralobular liver sinusoid. We know that this is a natural killer cell. Which cell is?

A. Pit-cell
B. Hepatocyte
C. Endothelium of the sinusoid
D. Stellate macrophage
E. Perisinusoidal lipocyte