Клітина

1. Histone protein synthesis is artificially blocked in a cell. What cell structure will be damaged as a result?

A. Cell membrane

B. Nuclear membrane

C. Nucleolus

D. Golgi apparatus

E. Nuclear chromatin

2. A team of medical students is performing research on phases of cell cycle. During one of the mitotic phases the cell is nearly done dividing, the chromosomes decondense and two nuclei begin to form around them. Which of the following phases most likely takes place in the cell?

A. Anaphase

B. Telophase

C. -

D. Prophase

E. Metaphase

3. An 18-year-old student presents with enlarged thyroid gland accompanied by accelerated metabolism and increased heart rate. These signs can be observed during hypersecretion of thyroxin. What organelles of thyroid cells are primarily responsible for hormone production and secretion?

A. Golgi apparatus

B. Mitochondria

C. Ribosomes

D. Centrosomes

E. Lysosomes

4. In the life cycle of a cell during mitosis a natural change in the amount of genetic material occurs. The DNA doubles at the following stage:
A.Interphase
B.Prophase
C.Metaphase
D.Anaphase
E.Telophase
1. The cell of the laboratory animal was overdosed with Roentgen rays. As a result albuminous fragments formed in the cytoplasm. What cell organoid will take part at their utilization?

A. Lysosomes
B. Golgi complex
C. Ribosome

D. Emdoplasmic reticulum
E. Cells centre

5. Low level of albumins and fibrinogen was detected in the patient's blood. Decreased activity of what organelle of the liver hepatocytes can cause it?
A. Mitochondrions
B. Agranular endoplasmatic reticulum
C. Lysosomes
D. Golgi complex
E. Granular endoplasmatic reticulum

6. A tissue sample of benign tumor was studied under the electron microscope. A lot of small (15-20 nm) spherical bodies, consisting of 2 unequal subunits were detected. These are:
A. Mitochondria
B. Smooth endoplasmic reticulum
C. Ribosomes
D. Microtubules
E. Golgi complex

7. Oval and round organelles with double wall are seen at the electron micrograph. The outer membrane is smooth, the inner membrane folded into cristae contain enzyme ATPase synthetase. These are:
A. Mitochondria
B. Lysosomes
C. Ribosomes
D. Golgi complex
E. Centrioles

8. Labeled aminoacids alanine and tryptophane were introducted to a mouse in order to study localization of protein biosynthesis in its cells. Around what organelles will the accumulation of labeled aminoacids be observed?
A. Golgi apparatus
B. Agranular endoplasmic reticulum
C. Cells center
D. Ribosomes
E. Lysosomes

9. In course of practical training students studied a stained blood smear of a mouse with bacteria phagocytozed by leukocytes. What cell organella completes digestion of these bacteria?
A. Mytochondrions
B. Lisosomes
C. Ribosomes
D. Golgi apparatus
E. Granular endoplasmic reticulum

10. Golgi complex exports substances from a cell due to the fusion of the membrane saccule with the cell membrane. The saccule contents flows out. What process is it?

A. Exocytosis
B. Facilitated diffusion
C. Endocytosis
D. Active-transport
E. All answers are false

11. On an electron micrograph a scientist has identified a structure formed by eight histone proteins and a part of DNA molecule which makes about 1,75 coils around the molecules. Which structure has been identified?

A. Nucleosoma
B. Chromosome
C. Elemetary fibril
D. Half-chromatid
E. Chromatid

12. On the electronic image an organelle is visible that is a big poliproteaze complex consisting of tubular and two regulatory units located at both ends of the organelle. The organelle function is proteolysis. Name this organelle:

A. Golgi complex
B. Inclusion
C. Proteasome
D. Centriole
E. Ribosome

13. An electron micrograph shows a cell-to-cell adhesion consisting, in each cell, of an attachment plaque. The intercellular space is filled with electron-dense substance including transmembrane fibrillar structures. Specify this adhesion:

A. Synapse
B. Tight junction
C. Nexus
D. Adherens junction
E. Desmosome

14. Cells of healthy liver actively synthesize glycogen and proteins. What organelles are the most developed in this cells?

A. Granular and agranular endoplasmic reticulum
B. Cell center
C. Lysosomes
D. Mitochondria
E. Peroxisomes

15. In the phase of myocardial contraction (systole) calcium ion concentration increases sharply in the sarcoplasm of cardiomyocytes. What structures are involved in the deposit of calcium ions?

A. Lysosomes
B. Ribosomes
C. T-tube
D. Nucleoli
E. Cisterns of smooth endoplasmic reticulum (s - system)

16. Moving of the daughter cromatids to the poles of the cell is observed in the mitotically dividing cell. On what stage of the mitotic cycle is this cell?

A. Anaphase
B. Telophase
C. Prophase
D. Interfase
E. Metaphase

17. The study of mitotic cycle phases of onion root revealed the cell, in which the chromosomes are situated in the equatorial plane, forming a monaster. What stage of the cell mitosis is it?

A. Telophase
B. Anaphase
C. Prophase
D. Interphase
E. **Metaphase**

18. During the postsynthetic period of mitotic cycle the synthesis of proteins – tubulines, which take part in the mitotic spindle formation, was destroyed. It can cause the impairment of:

A. Chromosome separation
B. Duration of mitosis
C. Chromosome despiralization
D. Chromosome spiralization
E. Cytokinesis

19. Life cycle of a cell includes the process of DNA autoreduplication. As a result of it monochromatid chromosomes turn into bichromatid ones. What period of cell cycle does this phenomenon fall into?

A. G_2
B. G_0
C. G_1
D. M
E. S

20. During studying maximally spiralized chromosomes of human karyotype, the process of cell division was stopped in the following phase:

A. Metaphase
B. Telophase
C. Interphase
D. Anaphase
E. Prophase

21. The life cycle includes a process of self-doubling cell DNA. As a result, the monochromatic chromosomes become bichromatic. In what period of the cell cycle observed this phenomenon?

A. Go
B. M
C. **S**
D. G1
E. G2

22. Experimental study of a new medicine founds a blocking effect on the assembly of protein tubulin, which is the basis of mitotic spindle in dividing cells. What stage of the cell cycle is disturbed with this drug?

A. Anaphase of mitosis
B. Synthetic period
C. Telophase of mitosis

D. Premitotic period of the interphase

E. postmitotic period of the interphase

23. A specimen of an onion rootlet includes a cell in which the fully condensed chromosomes are located in the equatorial plane making the monaster. What phase of the mitotic cycle is the cell in?

A. Early telophase
B. Prophase
C. Interphase
D. Metaphase
E. Late telophase