

## Practice 2

## Cytology I

1. What is the usual size of human cells? What is the size of cell nucleus?
2. What is the structure of cell (cytoplasmic) membrane?
3. Explain the terms chromatin, heterochromatin and euchromatin. What is their appearance in electron microscope? How is their structure related to the arrangement of DNA?
4. What is the structure of the nuclear envelope and the nuclear lamina? How the surface of lipid membranes can be visualized?
5. What is the structure of functional nucleolus? In what phase of mitosis the nucleolus disappears and why?
6. What is the size of a mitochondrion? How are the mitochondrial membranes arranged? What is the function of mitochondrial cristae? What is the function of mitochondria? How is the mitochondrial genome arranged when compared to nuclear?
7. What is the structure and function of the endoplasmic reticulum? How is the ER associated with the nucleus?
8. What is the structure and function of Golgi apparatus?
9. What is the structure and function of lysosomes and peroxisomes? Explain the terms autophagy and autophagic vacuole.
10. What is function of exocytic and endocytic vesicles? What are the secretory granules?

Recommended study materials: Presentations from practices and lectures, Atlas of Histology (online), Atlas of Cytology and Embryology (online), Junqueira's basic histology.