

**BIOLOGY ENTRANCE EXAM – 03**

**I. Answer the following questions and mark the correct answers with an (X) in the table below.**

*(max. 15 points)*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
a)															
b)															
c)															
d)															

- 1. The eye lens is:**
  - a) transparent and fluid
  - b) is double convex
  - c) is double concave
  - d) nontransparent and fluid
- 2. The red blood cells are called:**
  - a) thrombocytes
  - b) erythrocytes
  - c) phagocytes
  - d) leukocytes
- 3. The epidermis is:**
  - a) the outer skin layer
  - b) rich in glandular tissue
  - c) highly vascularized
  - d) is composed of dead cells only
- 4. The excretory organ is the:**
  - a) kidney
  - b) nephron
  - c) malpighian body
  - d) pelvis
- 5. The myocardial contraction is known as:**
  - a) systole
  - b) diastole
  - c) pause
  - d) pulse
- 6. Facial bones are the:**
  - a) frontal bone
  - b) ribs
  - c) sublingual bone
  - r) temporal bones
- 7. The triceps:**
  - a) flexes the hip
  - b) flexes the elbow
  - c) extends the elbow
  - d) extends the hip
- 8. The duodenum is the:**
  - a) initial part of the large intestine
  - b) final part of the large intestine
  - c) final part of the small intestine
  - d) initial part of the small intestine
- 9. Ribosomes:**
  - a) participate in protein synthesis
  - b) are single membrane organelles
  - c) participate in lipid synthesis
  - d) are double membrane organelles
- 10. All biochemical reactions taking place within a cell are known as:**
  - a) catabolism
  - b) anabolism
  - c) metabolism
  - d) nanism
- 11. The chromatin is a:**
  - a) complex of proteins
  - b) bacterial chromosome
  - c) complex of proteins and DNA
  - d) structure in prokaryotic cells
- 12. Meiosis is typical of:**
  - a) liver cells
  - b) somatic cells
  - c) germ cells
  - d) blood cells
- 13. Glycolysis is the process of degradation of:**
  - a) glycogen
  - b) glucose
  - c) cellulose
  - d) starch
- 14. The bonds between phosphate residues in the molecule of ATP are:**
  - a) macroergic
  - b) phosphodiester
  - c) hydrogen
  - d) glycosylic
- 15. Transcription is a process of:**
  - a) DNA synthesis
  - b) protein synthesis
  - c) cell division
  - d) RNA synthesis

**II. Which of the following statements are correct? Mark them with an (X) in the table below.**

*(max. 5 points)*

1	2	3	4	5	6	7	8	9	10	11	12

1. Amino acids recognize directly their corresponding codons on mRNA.
2. The human body is built by three basic tissue types.
3. The viral capsid is a protein structure.
4. Cell nucleus could function independently of the cytoplasm.
5. The hypofunction of the pancreas is called diabetes mellitus.
6. Prions are multicellular organisms causing mad cow disease.
7. Proteins are produced in lysosomes.
8. Bones are the active part of the locomotive system.
9. The pupil is located in the central part of the iris.
10. The pituitary gland is located in the cavity of the skull.
11. The rib cage belongs to the bones of the trunk.
12. Melanin is produced by the kidney.

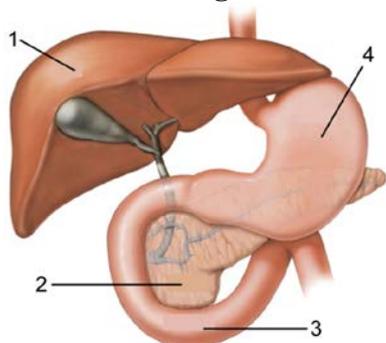
**III. Give a short definition for the following terms:**

*(max. 8 points)*

1. Mitosis.....  
.....
2. Systemic circulation.....  
.....
3. Menstruation.....  
.....
4. Sensory nervs.....  
.....

**IV. Label the figure.**

*(max. 4 points)*



1. ....
2. ....
3. ....
4. ....

**V. Fill in the table:** (*max. 8 points*)

	DNA	RNA
Pentose		
Nitrogen bases		
Cellular localization		
Structure		