

**Admission exam 2016**  
**The written test on Human Anatomy and Physiology, Genetics and Human Ecology**  
**Grid Test. No. 1**

Choose the correct answer of the following:

1. The transverse plane is:
  - a. an anterior pole and an rear pole;
  - b. the plane of bilateral symmetry;
  - c. oriented parallel to the forefront;
  - d. dividing the body into a skull and a caudal part.
2. The following autonomic reflexes close to the brainstem:
  - a. coughing, sneezing;
  - b. urinating, defecation;
  - c. tearing lacrimation and salivation;
  - d. mastication and swallowing;
3. The visual accommodation:
  - a. is a sympathetic reflex;
  - b. aims to change the refractive power of the lens;
  - c. involves radial contraction of the ciliary muscles;
  - d. aims a clear view at distances greater than 6 m.
4. The hormones of the adrenal medulla are:
  - a. secreted in large amounts under basal conditions;
  - b. synthesized in large quantities during the sleep;
  - c. represented by adrenaline and noradrenaline;
  - d. represented by aldosterone and cortisol.
5. The cardiac output:
  - a. is the volume of blood expelled from each atrium in a minute;
  - b. decreases during physical exercises;
  - c. increases in fever;
  - d. is not influenced by the autonomic nervous system activity.
6. The road of sound to the inner ear is:
  - a. hammer-stirrup-anvil-eardrum-oval window;
  - b. eardrum-hammer-anvil-stirrup-round window;
  - c. eardrum-hammer-anvil-stirrup-oval window;
  - d. round window-hammer-anvil-stirrup-oval window.
7. The genetic recombination by mutual exchange of genes:
  - a. takes place in prophase of meiosis II;
  - b. has phenotypic effects in homozygous organisms;
  - c. takes place between counterparts of pair chromosomes ;
8. Protein synthesis:
  - a. is accomplished on the semiconservative model;
  - b. begins with the replication of DNA;
  - c. is independent of the genetic information from the nucleus;
  - d. begins in the nucleus and ends in ribosomes.

9. Extranuclear and nuclear genes have this feature:
- the molecular weight;
  - $(A + T)/(C + G)$  ratio;
  - the mendelian transmission of the descent of characters;
  - the semiconservative replication of the genetic material.
10. The apoptosis is:
- a type of genetic control in short term;
  - a process of reversible inactivation of genes;
  - the genetically programmed cell death;
  - the differential gene activation in ontogenesis.
11. A section of a muscle has 40 muscle bundles; three quarters of these bundles of muscle fibers contain 150 each, and the rest as many as 100 fibers. Calculate the number of muscle fibers in this section.
- 5,500 fibers;
  - 4,500 fibers;
  - 1,000 fibers.
12. A person who has 90 kg has lost 0.5 L of blood after an accident in traffic and needs a blood transfusion. Knowing that the blood represents 8 % of the body weight, figurative elements are 45 % and organic substances from plasma are 9 % of the blood weight, determine the quantity of organic substance in the blood after the accident.
- 0.3900 kg;
  - 0.35640 kg;
  - 0.6700 kg.

Compiled,  
Lect. dr. Claudia Chilom

Endorsed,  
Lect. dr. Marcela Bărbîntă-Pătrașcu