

## **ELT-61106 Human Anatomy and Physiology**

### **End-term exam 4.12.2015**

Aim at constructive and compact answers. Use clear handwriting. Use pencil. Use graphs, if possible. Draw a margin on the exercise papers.

1. **Answer graphically** to the following problems (max. 10 points):
  - a) **Draw** a schematic figure of the nephron and name its functional components.
  - b) **Draw** an idealized tracing of the various respiratory volumes of a healthy man and mark the following volumes: Tidal volume, Inspiratory reserve volume, Expiratory reserve volume, Residual volume and Vital capacity.
  
2. **Explain** briefly the following physiological concepts (max. 10 points)
  - a) phases of blood-clotting,
  - b) pulmonary surfactant and its role,
  - c) oxygen saturation of blood and dissociation curve of hemoglobin,
  - d) enteric nervous system.
  
3. **Describe** the following concepts of the cardiovascular system. (max 15 points):
  - a) Structure and functioning of the intrinsic conduction system of the heart.
  - b) Cardiac output and factors acting on that.
  
4. **Describe** the integrated regulation mechanisms of the **water and electrolyte balance** in the body. (max. 15 points)