

Course: Biology of Animals

Vertebrates

- 1) Describe the basic body plan of vertebrates
- 2) Describe the main groups of water vertebrates
- 3) Describe the main groups of tetrapods and their adaptation for life on dry land
- 4) Describe the main groups of recent reptiles including birds
- 5) Describe the main groups of recent mammals
- 6) Describe the main enzymes of digestive system and their production and regulation in human
- 7) Describe the composition of mammalian blood
- 8) Describe the individual elements of circulatory systems in vertebrates
- 9) Describe the route of O₂ in mammalian circulatory system
- 10) Describe the lungs in mammals and birds
- 11) Describe the control of breathing and heart action in human
- 12) Describe the main glands and hormones of vertebrate endocrine systems
- 13) Describe the regulation of glucose level in blood
- 14) Make a simple picture of a neuron and synapse, describe neurotransmitters
- 15) Describe the main parts of vertebrate brain and their main functions

invertebrates

- 16) Unique features of animals (Metazoa)
- 17) Adhesion of cells
- 18) Chemical composition of exoskeletons
- 19) Chemical composition of endoskeletons
- 20) Occurrence of bioluminescence and UV glowing in invertebrates
- 21) Nitrogen excretion compounds
- 22) Layers of arthropod cuticle
- 23) Water loss reduction in terrestrial invertebrates
- 24) Occurrence and products of hypoxic metabolism
- 25) Which animals possess neurotoxins, their action
- 26) Not-neurotoxic defense compounds
- 27) Blood pigments carrying oxygen
- 28) Silk composition and producers
- 29) Function of tracheae
- 30) Function of gills
- 31) Eyes and abilities of vision
- 32) Role of ecdysone and juvenile hormone
- 33) Cryptobiosis (anhydrobiosis, cryobiosis)
- 34) Disease vectors
- 35) Honey, manna, shellac, carmine