

MEDICAL UNIVERSITY - PLEVEN, BULGARIA

BIOLOGY EXAM Sample Test – v.3**Part A: Multiple Choice Questions**

1. **The functions of connective tissue are:**
 - A. Storage, secretion, isolation
 - B. Protection, secretion, transport
 - C. Support, protection, storage, isolation
 - D. Contraction, transport, conductivity
2. **What is the bone surface covered with?**
 - A. Yellow bone marrow
 - B. Red bone marrow
 - C. Periosteum
 - D. Adipose tissue
3. **Epithelial tissue is characterized by each of these traits, EXCEPT that _____.**
 - A. It lacks blood vessels.
 - B. It functions in secretion, absorption, and excretion.
 - C. Epithelial cells are loosely packed and have much intercellular material.
 - D. It is anchored to a basement membrane.
4. **What is the skeletal system?**
 - A. All the bones in the body.
 - B. All the muscles and tendons.
 - C. All the body's organs, both soft and hard tissue.
 - D. All the bones in the body and the tissues that connect them.
5. **How many bones are there in the average person's body?**
 - A. 33
 - B. 206
 - C. 639
 - D. 106
6. **Which of the following statement is INCORRECT?**
 - A. Bone is where most blood cells are made.
 - B. Bone serves as a storehouse for various minerals.
 - C. Bone is a dry and non-living supporting structure.
 - D. Bone protects and supports the body and its organs.
7. **Besides the brain, the skull also protects:**
 - A. The lungs
 - B. The diaphragm
 - C. The body's cells
 - D. The sense organs
8. **What makes bones so strong?**
 - A. Silica
 - B. Cartilage
 - C. Blood and marrow
 - D. Calcium and phosphorous
9. **The tongue is covered with:**
 - A. Cartilage
 - B. Periosteum
 - C. Connective tissue
 - D. Epithelial tissue
10. **The basic structural and functional unit of the kidneys is the:**
 - A. Urethra
 - B. Pelvis
 - C. Nephron
 - D. Bladder
11. **Which muscle tissue is multinucleate, voluntary, and bears striations?**
 - A. Skeletal muscle.
 - B. Smooth muscle.
 - C. Multiunit smooth muscle.
 - D. Cardiac muscle.

- 12. The kidney tubules are lined with _____ epithelial cells.**
- A. Columnar.
 - B. Cuboidal.
 - C. Squamous.
 - D. Ciliated.
- 13. What are the two main functions of the pancreas?**
- A. The manufacture of digestive juices and the production of the hormone insulin.
 - B. The storage of bile and the production of the hormone oestrogen.
 - C. The filtering of waste products and the manufacture of immune system cells.
- 14. How does the liver contribute to digestion?**
- A. It grinds food.
 - B. It removes excess water and returns it to the bloodstream.
 - C. It processes food nutrients.
 - D. It supports digestive processes by supplying substances useful to the digestive process
- 15. The heart has _____ chambers.**
- A. 2
 - B. 4
 - C. 6
 - D. 3
- 16. The thickest layer of the heart, which comprises all cardiac muscles is the:**
- A. Pericardium
 - B. Myocardium
 - C. Endocardium
 - D. Periosteum
- 17. The protein that makes RBCs red is:**
- A. Globulin
 - B. Hemoglobin
 - C. Myoglobin
 - D. Albumin
- 18. A major role in secretion is played by a membrane bound organelle, called:**
- A. Lysosome
 - B. Ribosome
 - C. Golgi complex
 - D. Nucleus
- 19. What is the central nervous system (CNS)?**
- A. The brain and the spinal cord.
 - B. The brain and the heart.
 - C. The heart and the spinal cord.
 - D. The spinal cord and the lungs.
- 20. The monomers of proteins are:**
- A. Amino acids.
 - B. Nucleotides.
 - C. Nitrogen bases.
 - D. Monosaccharides.
- 21. Which of the following statements is NOT true? Catalytic functions are characteristic of:**
- A. RNA.
 - B. DNA.
 - C. Proteins.
 - D. Enzymes.
- 22. Which of the biopolymers have all of the following biological functions of: storage of genetic information, transcription of genetic information, formation of inner cell structures, catalytic functions?**
- A. DNA.
 - B. RNA.
 - C. proteins.
 - D. polysaccharides.
- 23. The quaternary structure of proteins is characterized by:**
- A. The folding of polypeptide chain into a beta sheet.
 - B. The folding of polypeptide chain into a uniform spiral.
 - C. It is present only in proteins with catalytic functions.
 - D. It is built up of several polypeptide chains.

24. The active transport is:

- A. Also called osmosis.
- B. An energy-dependent process.
- C. Directed from the higher toward the lower concentration.
- D. Also called diffusion.

25. Ribosomes:

- A. Are only found in prokaryotic cells.
- B. Can be free or bonded to the endoplasmic reticulum.
- C. Are synthesized in the nucleus of prokaryotic cells.
- D. Are only found in eukaryotic cells.

26. Main function of Golgi complex is:

- A. The synthesis of proteins and lipids.
- B. Formation of ribosomes.
- C. Packing of secretions.
- D. Synthesis of sugars and proteins.

27. Secretory vesicles are formed by:

- A. The Golgi complex.
- B. The lysosomes.
- C. The mitochondria.
- D. Nucleus.

28. Which of the following characteristics are common for both mitochondria and chloroplasts?

- A. They are found in all organisms.
- B. The synthesis of ATP in electron-carrying chains takes place within them.
- C. They use equal energy sources for ATP synthesis.
- D. They contain DNA.

29. Which of the following structures is common for both plant and animal cells?

- A. Mitochondria.
- B. Cell wall.
- C. Chloroplast.
- D. Glycocalyx.

30. Bacteria:

- A. Are only unicellular.
- B. Have nuclei.

C. Are eukaryotic organisms.

D. Obtain energy only through the breaking down of substances in the absence of oxygen.

31. The biocatalysts are:

- A. Substances of sugar nature.
- B. Deoxyribonucleic acids.
- C. Specific.
- D. Nonspecific.

32. DNA replication results in:

- A. 2 completely new DNA molecules.
- B. 1 new DNA molecule, 1 old DNA molecule is conserved.
- C. 2 DNA molecules that each contains a strand of the original.
- D. 1 new RNA molecule

33. Catabolic processes:

- A. Are reduction processes.
- B. Are dissipative processes.
- C. Cause biosynthesis of macromolecules.

34. Which of the following compounds are end products in the Krebs cycle and the respiratory chain?

- A. Carbon dioxide, water and ATP.
- B. Oxalic acid.
- C. Citric acid.
- D. Pyruvic acid.

35. Coenzyme A is:

- A. A protein.
- B. A strong reducer.
- C. A compound that participates in the biosynthesis of proteins.
- D. A key intermediate metabolite.

36. A dominant gene usually shows itself over a:

- A. Homozygous gene.
- B. Heterozygous gene.
- C. Recessive gene.
- D. Sex-linked trait.

