



### Sample Test – v.2

- ❖ Indicate the correct answers on the answer sheet with “X”.
- ❖ For each question there is only one correct answer. Multiple answers will be scored as incorrect.

1. **Connective tissue fibers that have great tensile strength and can be found in ligaments and tendons are:**
  - A. Elastic fibers.
  - B. Collagenous fibers.
  - C. Reticular fibers.
  - D. Yellow fibers.
2. **Neuroglial cells help neurons in each of these ways, with the EXCEPTION of:**
  - A. Supporting and binding nervous tissue.
  - B. Carrying on phagocytosis.
  - C. Playing a role in cell-to-cell communications.
  - D. Transmitting nervous impulses.
3. **Which of the following is not one of the four major types of tissues?**
  - A. Epithelial.
  - B. Connective.
  - C. Nervous.
  - D. Skeletal muscle.
4. **The outer layer of the skin is the:**
  - A. Epiglottis.
  - B. Dermis.
  - C. Epidermis.
5. **Which bone protects the brain?**
  - A. Cranium.
  - B. Cerebrum.
  - C. Cerebellum.
  - D. Calcium.
6. **The spine is build up by vertebrae, grouped in:**
  - A. Cervical, thoracic and lumbar.
  - B. Cervical, thoracic, lumbar and sacral.
  - C. Cervical, thoracic, lumbar, sacral and the coccyx.
7. **The kidney tubules are lined with \_\_\_\_\_ epithelial cells.**
  - A. Columnar.
  - B. Cuboidal.
  - C. Squamous.
  - D. Ciliated.
8. **A sarcomere:**
  - A. Is a section of a myofibril.
  - B. Gets shorter when it contracts.
  - C. Has striations.
  - D. All of the choices are correct.
9. **A skeletal muscle cell:**
  - A. Has light and dark bands (striations).
  - B. Has only one nucleus.
  - C. Is under involuntary control.
10. **Which muscle tissue is uninucleated and bears striations?**
  - A. Skeletal muscle.
  - B. Smooth muscle.
  - C. Multiunit smooth muscle.
  - D. Cardiac muscle.
11. **Microvilli, that increase surface area, are more likely to be found in \_\_\_\_\_ epithelium.**
  - A. Simple cuboidal.
  - B. Simple squamous.
  - C. Transitional.
  - D. Simple columnar.
12. **Choose the correct sequence of the pathway through which air travels after entering the body.**
  - A. Larynx, pharynx, trachea bronchioles.
  - B. Pharynx, larynx, trachea, bronchioles.
  - C. Pharynx, larynx, bronchioles, trachea.
  - D. Pharynx, trachea, larynx, bronchioles.
13. **Which process DOES NOT occur in the nasal cavity?**
  - A. Trapping of large foreign bodies.
  - B. Exchange of gases.
  - C. Humidification of inhaled air.
  - D. Warming of inhaled air.

**14. In what solution the concentration of dissolved substances outside the cell is equal to the concentration inside the cell?**

- A. Hypotonic solution
- B. Isotonic solution
- C. Hypertonic solution
- D. Osmotic solution

**15. What is the central nervous system (CNS)?**

- A. The brain and the heart.
- B. The brain and the spinal cord.
- C. The heart and the spinal cord.
- D. The spinal cord and the lungs.

**16. Which of the biopolymers have all of the following biological functions: storage of genetic information, transcription of genetic information, formation of inner cell structures, catalytic functions?**

- A. DNA.
- B. RNA.
- C. proteins.
- D. ATP

**17. In terms of biochemistry, what type of process is the breakdown of glucose to H<sub>2</sub>O and CO<sub>2</sub> ?**

- A. Anabolic.
- B. Aerobic.
- C. Catabolic
- D. Autotrophic

**18. DNA replication results in:**

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

**19. Cristae are specific formations in the:**

- A. Mitochondria
- B. Nucleus
- C. Ribosomes
- D. Golgi Apparatus

**20. Ribosomes:**

- A. Are synthesized in the nucleus of prokaryotic cells.
- B. Are only found in prokaryotic cells.

- C. Can be free or bonded to the endoplasmic reticulum.
- D. Are only found in eukaryotic cells.

**21. Catabolic processes:**

- A. Are reduction processes.
- B. Cause biosynthesis of macromolecules.
- C. Are dissimilative processes.
- D. Consume energy

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

- A. Oxalic acid.
- B. Citric acid.
- C. Carbon dioxide, water and ATP.
- D. Hydrogen, oxygen and NAD

**23. Coenzyme A is:**

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

**24. Carbohydrates are broken down into simple sugars by:**

- A. Polymerases
- B. Amylases
- C. Proteases
- D. Lipases

**25. Which of the following features do protists, fungi, plant, and animals share but bacteria lack?**

- A. DNA.
- B. A nucleus.
- C. Reproduction.
- D. A cell membrane.

**26. What three components make up the nucleotide subunits?**

- A. DNA, ribose, and adenine.
- B. Phosphate, sugar, and nitrogen base.
- C. Sugar, DNA, and oxygen.
- D. Phosphate, ribose, and deoxyribose.

**27. The movement of materials against a concentration gradient is known as:**

- A. Endocytosis.
- B. Facilitated diffusion.
- C. Active transport.

- D. Osmosis.
- 28. Glycolysis takes place in the**
- Cytosol.
  - Mitochondrial membrane
  - Mitochondrial matrix.
  - Nucleus
- 29. What is the solution if the concentration of dissolved substances is lower in the solution outside the cell than the concentration inside of the cell.**
- Hypotonic.
  - Hypertonic.
  - Isotonic.
  - Aquatic
- 30. What is the function of mitochondria?**
- Makes proteins.
  - Transports materials.
  - Breaks down substances and releases energy.
  - Stores food.
- 31. What is the function of Gorgy apparatus?**
- Breaks down food.
  - Makes proteins.
  - Directs cell activity.
  - Process and bundle macromolecules.
- 32. Ribosomes are found:**
- On the smooth endoplasmic reticulum.
  - In the nucleus.
  - On the Golgi apparatus.
  - On the rough endoplasmic reticulum.
- 33. This is the gel-like substance found in a cell.**
- Cytoplasm.
  - Chromosomes.
  - Vacuole.
  - Ribosomes.
- 34. Which of the following organelles may be absent from eukaryotic cells?**
- Nucleus.
  - Mitochondria.
  - Plasma membrane.
  - Chloroplast.
- 35. Which cell structure stores food, nutrients, and waste in the cell?**
- Vacuole.
  - Cell membrane.
  - Mitochondria.
  - Nucleus.
- 36. Mendel's law of \_\_\_\_\_ states that a random assortment of maternally and paternally derived chromosomes in meiosis results in gametes that have different combinations of these genes.**
- Particulate inheritance .
  - Dominance.
  - Segregation.
  - Independent assortment.
- 37. Consider the cross AaBb x AaBb. If the alleles for both genes exhibit complete dominance, what phenotypic ratio is expected in the resulting offspring?**
- 1:1:1:1
  - 9:3:3:1
  - 3:6:3:1:2:1
  - 1:2:1:2:4:2:1:2:1
- 38. The function of the endoplasmic reticulum is:**
- To digest lipids and proteins.
  - To fold and transport various proteins and lipids.
  - To contain important directions for the cell and cellular functions.
  - To provide structure and support for the cell.
- 39. Glycolysis yields a small amount of ATP.**
- True.
  - False.
- 40. In a cell, water always moves to reach an equal concentration on both sides of the membrane.**
- True.
  - False.