TEST BANK:

PATHOPHYSIOLOGY: Introductory Concepts and

Clinical Perspectives

2ND EDITION

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TEST BANK

Pathophysiology Introductory Concepts and Clinical Perspectives 2nd Edition Capriotti Test Bank

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Chapter 1: The Cell in Health and Illness

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Multiple Choice

Identify the choice that best completes the statement or answers the question.

- 1. Which statement regarding the sodium-potassium pump is correct?
 - 1. The cell's plasma membrane is more soluble to sodium ions than potassium ions.
 - 2. The concentration of sodium ions should be higher inside the cell compartment.
 - 3. The concentration of potassium ions should be higher outside the cell compartment.
 - 4. The active transport involves pumping out three sodium ions and pumping in two potassium ions.
 - 2. What is the process in which glucose is used to create energy?
 - 1. Autolysis
 - 2. Glycolysis
 - 3. Heterolysis
 - 4. None of the above
- 3. How many adenosine triphosphates (ATPs) are produced in aerobic energy metabolism?
 - 1. 2
 - 2. 3
 - 3. 34
 - 4. None of the above
- 4. Which cell organelles are believed to have once been self-sustaining and independent?
 - 1. Ribosomes
 - 2. Mitochondria
 - 3. Ribonucleic acid
 - 4. Deoxyribonucleic acid
- _ 5. Why is more energy produced when a person is exercising?
 - 1. There is an increase in the synthesis of protein.
 - 2. There is an increase in the production of pyruvic acid in the cells.
 - 3. There is an increase in the conversion of pyruvic acid to lactic acid.
 - 4. There is an increase in the production of mitochondria in the muscle cells.
- 6. When does ribosomal protein synthesis cease?
 - 1. During endoplasmic reticulum (ER) stress
 - 2. During the synthesis of ATP
 - 3. During severe hypoxic state
 - 4. During the processing of prohormone
 - 7. The cellular organelle responsible for propelling mucous and inhaled debris out of the lungs is 1. cilia.
 - 1. c_{111a}
 - 2. microfilament.
 3. secretory vesicle.
 - 4. endoplasmic reticulum.
- 8. Which are the key proteins in the contractile units of the muscle cells?
 - 1. Actin and myosin

- 2. Myosin and tubulin
- 3. Tubulin and actin
- 4. None of the above
- 9. Which deficiency causes Tay-Sach's disease?
 - 1. Proteasome
 - 2. Peroxisome
 - 3. Macrophage
 - 4. Lysosomal enzymes
- 10. Adrenoleukodystrophy is characterized by
 - 1. Accumulation of ganglioside.
 - 2. Cessation of ribosomal protein synthesis.
 - 3. Acceleration of cellular proteasome activity.
 - 4. Accumulation of long chain fatty acid s in the nervous system.
 - _____11. Which statement regarding endoplasmic reticulum (ER) stress is correct?
 - 1. During ER stress, proteins are rapidly degraded.
 - 2. During ER stress, lipids cannot travel to their proper intracellular locations.
 - 3. During ER stress, accumulation of long chain fatty acids occurs in the nervous system.
 - 4. During ER stress, accumulation of non-degraded substances occurs in the cells.
 - 12. Which is referred to as the protein factory of the cell?
 - 1. Ribosome
 - 2. Mitochondria
 - 3. Golgi apparatus
 - 4. Endoplasmic reticulum
 - _ 13. Which acts as a blue print for the construction of proteins?
 - 1. Transfer RNA
 - 2. Ribosomal RNA
 - 3. Messenger RNA
 - 4. Mitochondrial DNA
- 14. A hiker experiences muscle pain and acidosis as he or she ascends a mountain during a long, steep climb. What is the reason for these symptoms?
 - 1. Cellular hypoxia
 - 2. Autolysis
 - 3. Heterolysis
 - 4. Cellular edema
- _____ 15. Which factor provides DNA the unique molecular ability to replicate?
 - 1. The precise pairing of the nitrogenous bases
 - 2. The presence of pyrimidines bases
 - 3. The presence of nucleotides
 - 4. The nitrogenous base and phosphate bond
 - _____16. How many nitrogenous bases compose a single codon?
 - 1. 2
 - 2. 3
 - 3. 4
 - 4. None of the above

- 17. The DNA is a polymer of
 - 1. Nucleotides.
 - 2. Amino acids.
 - 3. Fatty acids.
 - 4. Phosphates.
- 18. What is the function of ribosomal ribonucleic acid during protein synthesis?
 - 1. It transports genetic information from the DNA for protein synthesis.
 - 2. It gathers and joins the amino acids for specific proteins.
 - 3. It is directly involved in the formation of ribosomes.
 - 4. None of the above.
- 19. Tetracycline antibiotic was given to a 30 year old client with Chlamydia infection. What is the mechanism of action of the drug?
 - 1. It prevents the replication of bacteria.
 - 2. It alters the configuration of bacterial cytoplasm.
 - 3. It interferes with the function of bacterial ribosomes.
 - 4. It inhibits the functions of bacterial mitochondria.
- 20. Where does the conversion of a prohormone into a hormone take place?
 - 1. Ribosome
 - 2. Golgi apparatus
 - 3. Secretory granule
 - 4. Endoplasmic reticulum
- _____ 21. Which is the cell's "master mind"?
 - 1. Nucleus
 - 2. Ribosome
 - 3. Golgi apparatus
 - 4. Endoplasmic reticulum

Multiple Response

Identify one or more choices that best complete the statement or answer the question.

- _____ 22. Which statements regarding the microtubules are true? *Select all that apply*.
 - **1.** Microtubules are solid.
 - **2.** Microtubules are flexible.
 - **3.** Microtubules are composed of tubulin.
 - **4.** Microtubules are called actin filaments.
 - 5. Microtubules comprise of centrioles and mitotic spindle.
- 23. Which structures are found in microtubules? *Select all that apply*.
 - **1.** Cilia
 - **2.** Centrioles
 - **3.** Mitotic spindle
 - **4.** Actin filaments
 - **5.** Secretory vesicles
 - 24. What are the characteristics of ribonucleic acid? Select all that apply.
 - **1.** Presence of ribose pentose sugar

- Presence of single stranded helix
 Presence of double stranded helix
- 4. Presence of deoxyribose pentose sugar
- 5. Presence of uracil and cytosine as pyrimidine base
- 25. Which are the purine bases found in deoxyribonucleic acid and ribonucleic acid? Select all that apply.
 - **1.** Uracil

- **2.** Adenine
- **3.** Guanine
- **4.** Thymine
- 5. Cytosine