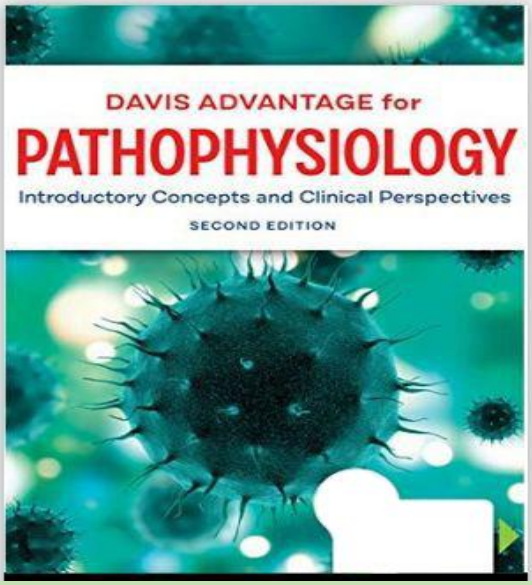
TEST BANK:

PATHOPHYSIOLOGY:
Introductory Concepts and Clinical Perspectives

2ND EDITION

Theresa Capriotti



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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.
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

2. Presence of single stranded helix
3. 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