Practice Questions – Chapters 6-8

Ch 6

1. Microorganisms require small quantities of this nutrient for enzyme function and maintenance of protein structure:  A. element  B. macronutrient  C. water  D. growth factors  E. trace element


4. The movement of molecules from an area of high concentration to an area of lower concentration is called  A. facilitated diffusion.  B. diffusion.  C. active transport.  D. osmosis.  E. endocytosis.

5. The use of energy by a cell to enclose a substance in its membrane by forming a vacuole and engulfing it is called  A. facilitated diffusion.  B. diffusion.  C. active transport.  D. osmosis.  E. endocytosis.


8. The *E. coli* that normally live in the human large intestines and produce vitamin K for the body to use would best be termed a ____ relationship.  A. parasitic  B. saprobic  C. commensal  D. mutualistic  E. None of the choices is correct.

NCLEX Prep - Test Bank Question: Please read the clinical scenario, and then answer the questions that follow to become familiar with the traditional NCLEX question format. The hospital infectious disease team is involved with the study of a healthcare-associated infection that has spread to 10% of inpatients. The infected patients are exhibiting symptoms of severe abdominal cramping, diarrhea, nausea, and vomiting. As the infectious disease RN, you provide education to staff regarding the pattern of bacterial growth and infection control.

9. The period of growth between inoculation and when the cells finally adjust to their new environment and begin growth at their maximum rate is called the  A. lag phase.  B. exponential growth phase.  C. stationary growth phase.  D. death phase.
10. Antimicrobial agents are often most effective when given during which period of bacterial growth?  
   A. lag phase  B. exponential growth phase  C. stationary growth phase  D. death phase

**Ch 7**

11. The breakdown of peptidoglycan to N-acetylmuramic acid, N-acetylglucosamine, and peptides is an example of  

12. Reactants are converted to products by  
   A. enzymes releasing energy.  B. breaking and forming bonds.  C. enzymes binding to reactants.  D. reactants releasing energy.  E. None of the choices is correct.

13. Each of the following is true of enzymes except  
   A. they can be used over and over.  B. they may or may not require cofactors.  C. their active site is specific to the substrate.  D. they increase the activation energy of a reaction.  E. All of the choices are true of enzymes.

14. During aerobic cellular respiration, the final electron acceptor is  
   A. pyruvic acid.  B. oxygen.  C. nitrate.  D. cytochrome c.  E. FAD.

15. Each of the following are denaturing agents except  
   A. high temperature.  B. low temperature.  C. high pH.  D. low pH.  E. All of the choices are correct.

16. As the electron transport carriers shuttle electrons, they actively pump ____ into the outer membrane compartment setting up a concentration gradient called the proton motive force.  
   A. ATP  B. phosphate  C. hydrogen ions  D. oxygen  E. NADH

17. In bacterial cells, when glucose is completely oxidized by all the pathways of aerobic cellular respiration, what is the maximum number of ATP generated?  
   A. 2 ATP  B. 3 ATP  C. 24 ATP  D. 36 ATP  E. 38 ATP

18. Which of the following is not true of anaerobic respiration?  
   A. is also called fermentation  B. involves glycolysis  C. generates some ATP  D. utilizes an electron transport system  E. uses the same final electron acceptors as aerobic respiration

19. The reactions of fermentation function to produce ____ molecules for use in glycolysis.  
   A. pyruvic acid  B. ATP  C. NAD  D. NADH  E. glucose

20. Which of the following processes is common to fermentation, anaerobic respiration, and aerobic respiration?  
   A. glycolysis  B. the Krebs cycle  C. the electron transport system  D. glycosylation
Ch 8

21. The antiparallel arrangement within DNA molecules refers to  A. each base bonding at the 1’ position of the sugar.  B. a purine always bonding to a pyrimidine.  C. one helix strand that runs from the 5’ to 3’ direction and the other strand runs from the 3’ to 5’ direction.  D. an original parent DNA strand and one newly synthesized DNA strand comprising a new DNA molecule.  E. None of the choices is correct.

22. During replication, each parent DNA strand serves as a ____ for synthesis of new DNA strands.  A. copy point  B. template  C. comparison molecule  D. scaffold  E. reservoir

23. RNA molecules differ from DNA molecules because only RNA  A. has ribose.  B. has uracil.  C. is typically one strand of nucleotides.  D. does not have thymine.  E. All of the choices are correct.

24. The process in which damaged nucleotides are removed and the correct nucleotides added is called  A. transduction.  B. excision repair.  C. frame shift.  D. back-mutation.  E. transformation.

25. The transfer of DNA fragments from a dead cell to a live, competent recipient cell that results in a changed recipient cell is  A. transduction.  B. conjugation.  C. transformation.  D. transmission.  E. mitosis.

26. A bacteriophage transfers DNA of the previous host to the current host. This is an example of  A. conjugation.  B. generalized transduction.  C. translation.  D. transformation.  E. None of the choices is correct.

NCLEX Prep - Test Bank Question: Please read the clinical scenario, and then answer the questions that follow to become familiar with the traditional NCLEX question format.  An 18-month-old male is admitted to the hospital with symptoms of a respiratory infection. The patient’s mother reports that since birth, the toddler has frequently had a cough and copious nasal secretions. His weight gain has been poor, despite adequate oral intake. The patient appears in moderate respiratory distress, so oxygen therapy and IV fluids are initiated. The physician orders tests for cystic fibrosis due to the patient’s history and clinical presentation. When the tests confirm the diagnosis, as the RN, you provide education to the mother regarding this autosomal recessive disease.

27. You educate the patient’s mother that the most common cause of cystic fibrosis is a deletion of 3 nucleotides. Which of the following statements, by the mother, demonstrates an understanding of the disease?  A. "My child’s disease is caused by a missing chromosome."  B. "My child’s disease is caused by a missing gene."  C. "My child’s disease is caused by a missing amino acid."  D. "My child’s disease is caused by an infectious process."
28. Which of the following terms would best describe a mutation that changes a normal
   codon into a stop codon?  
   A. missense mutation  
   B. nonsense mutation  
   C. back-mutation  
   D. frameshift mutation

   NCLEX Prep - Test Bank Question: Please read the clinical scenario, and then answer the
   questions that follow to become familiar with the traditional NCLEX question format. As an
   RN working in a research unit, you are responsible for data and specimen collection for
   multiple research studies. A patient is admitted as a participant in a study focused on the role
   of tRNA mutations in Alzheimer’s disease. The 78-year-old male is accompanied by his wife
   and daughter. Prior to obtaining the first blood specimen, you provide education regarding the
   importance of the study and the overall process of protein synthesis.

29. Which of the following statements, by the patient’s daughter, demonstrates her
   understanding of the function of tRNA?  
   A. "tRNA possesses an anticodon complementary to an mRNA codon."  
   B. "tRNA is an exact copy of a gene’s DNA sequence."  
   C. "tRNA is a structural component of the ribosome."  
   D. "tRNA is responsible for regulating transcription and translation."

30. tRNA plays a role in which of the following processes of protein
   synthesis?  
   A. translation  
   B. transcription  
   C. replication  
   D. transduction