Chapter 2 - Basic Concepts and Processes

1. What is the primary function of a Golgi complex?
   A) the storage and packaging of substances that are converted into secretory granules
   B) the generation of energy required for various cellular activities
   C) the synthesis of proteins, glycogen, triglycerides, and steroids
   D) the digestion of protein, carbohydrates, and fats

2. A client is experiencing a cough associated with an upper respiratory infection. Which oral medication will likely produce the quickest therapeutic effect?
   A) a tablet
   B) an expectorant
   C) a topical spray
   D) a timed-release tablet

3. Which process occurs between the time the drug enters the body and the time that it enters the bloodstream?
   A) absorption
   B) distribution
   C) metabolism
   D) excretion

4. Which site is preferred when consideration must be made to identifying an exceptionally large surface area for drug absorption?
   A) rectum
   B) fundus of the stomach
   C) esophagus
   D) lungs

5. Which drug is formulated to be absorbed through the skin? Select all that apply.
   A) lidocaine
   B) clonidine
   C) propranolol
   D) nitroglycerin
   E) fentanyl

6. An older adult client has an elevated serum creatinine level. This client is at greatest risk for which medication-related effect?
   A) toxicity
   B) increased absorption
   C) delayed gastric emptying
   D) idiosyncratic effects

7. What is the primary role of protein binding on drug action?
   A) increasing the medication's speed of action
   B) decreasing the medication's speed of action
   C) increasing the rate of the medication's excretion
   D) averting the risk of adverse effects posed by the medication

8. Which medication is prescribed to inhibit the function of several of the CYP enzymes?
   A) cisplatin
   B) acebutolol hydrochloride
   C) cimetidine
   D) dicloxacillin sodium

9. Which statement accurately describes the concept of a medication's serum half-life?
   A) the time required for IV medications to penetrate the brain tissue
   B) the time needed for the serum level to fall by 50%
   C) the safest margin to prevent toxicity
   D) the dose adjustment that reduces the risk of adverse effects by one half

10. What is the mechanism that allows mannitol to produce diuresis?
    A) competes with aldosterone for cellular receptor sites
    B) inhibits the reabsorption of sodium and chloride in the loop of Henle
    C) interferes with absorption of sodium ions across the distal renal tubule
    D) increases the osmolarity of plasma and pulls water out of the tissues into the bloodstream

11. Which factor accounts for the increased risk for drug reactions among clients aged 65 years and older?
    A) drugs more readily crossing the blood–brain barrier in older people
    B) physiologic changes affecting all pharmacokinetic processes
    C) increased drug-metabolizing enzymes in older people
    D) diminished immune response

12. When considering the dosage requirement for a 6-feet tall client who weighs 280 lb, which statement is accurate?
    A) Dose will be higher than that required of a client who weighs 180 lb.
    B) Dose will be lower than that required of a client who weighs 180 lb.
    C) Dose will be similar to that required of a client who weighs 180 lb.
    D) Dose will be more effective if given parenterally to a client who weighs more than 180 lb.

13. What is the characteristic action of an agonist?
    A) Agonists alter the normal processes of distribution and metabolism.
    B) Agonists counteract the action of specific neurotransmitters.
    C) Agonists block the action of specific neurotransmitters.
    D) Agonists bind to receptors and cause a physiologic effect.

14. What is the expected therapeutic outcome of the simultaneous administration of two medications?
    A) The adverse effects of one of the drugs are nullified by the other drug.
    B) The combined effects are greater than the effects of either one of the drugs alone.
    C) One of the drugs enhances metabolism, while the other drug enhances either distribution or absorption.
    D) Both drugs are toxic in isolation but therapeutic when administered together.

15. When considering the half-life of naloxone, what are the implications for this medication therapy?
    A) Repeated doses of naloxone will likely be necessary.
    B) An increase in the dosage of naloxone will most likely be required.
    C) A different antidote will be required as the serum level of naloxone decreases.
    D) The antidote is unlikely to have a therapeutic effect on the client's symptoms.

16. A client tells the nurse, “I took my sleeping pill yesterday evening, but it didn't seem to work for me like it usually does.” The nurse should consider which variable that can affect drug absorption? Select all that apply.
    A) GI function
    B) blood flow to the site of administration
    C) the presence of other drugs
    D) route of administration
    E) the presence of receptor agonists

17. A nurse has administered a dose of a drug that is known to be highly protein bound. What are the implications of this characteristic?
    A) The client must consume adequate protein in order to achieve a therapeutic effect.
    B) The molecules of the drug that are bound to protein are inactive and do not affect body cells.
    C) Increased levels of serum protein will increase the effect of the drug.
    D) Each molecule of the drug must bind to a protein molecule to become effective.

18. What is the effect of a significant first-pass effect on the metabolism of a medication?
    A) The medication must pass through the client's bloodstream several times in order to generate a therapeutic effect.
    B) The medication must pass through the renal tubules and is excreted in large amounts.
    C) The medication's effectiveness increases with each subsequent dose.
    D) The medication is biotransformed extensively in the client's liver.

19. A client with a diagnosis of bipolar disorder has begun lithium therapy. What is the primary rationale for the nurse's instructions regarding the need for regular monitoring of the client's serum drug levels?
    A) It is necessary to regularly test for blood–drug incompatibilities that may develop during treatment.
    B) It is necessary to ensure that the client's drug levels are therapeutic but not toxic.
    C) It is needed to determine if additional medications will be needed to potentiate the effects of lithium.
    D) It is needed in order to confirm the client's adherence to the drug regimen.

20. A client in cardiovascular collapse requires pharmacological interventions involving a rapid drug action and response. What route of administration is **most** likely appropriate?
    A) intravenous
    B) oral
    C) rectal
    D) topical

Answer Key

1. A
2. B
3. A
4. D
5. B, D, E
6. A
7. B
8. C
9. B
10. D
11. B
12. A
13. D
14. B
15. A
16. A, B, C, D
17. B
18. D
19. B
20. A