

## Chapter 1: Drugs/Agents and Factors Affecting Their Action

### MULTIPLE CHOICE

A client with an elevated temperature, fatigue, and a productive cough visits the physician. The physician examines the client and determines that he has pneumonia. An antibiotic is prescribed, and the client is advised to take aspirin every 4 hours to reduce the fever and to drink plenty of fluids. The following questions relate to this client and to the background information about drugs the nurse needs to know to provide care to clients like this one.

1. A drug information source that would be most appropriate to use to identify an unknown drug product by its appearance is:
  - a. *Physician's Desk Reference.*
  - b. *Facts and Comparisons.*
  - c. *AHFS Drug Information.*
  - d. *American Drug Index.*

ANS: A

	Feedback
A	<b>Correct:</b> The <i>PDR</i> provides color pictures of many drugs to facilitate the identification of unknown drug products.
B	Incorrect: This does not provide color pictures of drugs.
C	Incorrect: This does not provide color pictures of drugs.
D	Incorrect: This does not provide color pictures of drugs.

PTS: 1 REF: Drug Information Resources  
OBJ: Cognitive Level: Comprehension

2. A device used to estimate body surface area (BSA) based on a client's height and weight is a:
  - a. plasma concentration versus time plot.
  - b. histogram.
  - c. dosimeter.
  - d. nomogram.

ANS: D

	Feedback
A	Incorrect: This does not provide estimated body surface.
B	Incorrect: A histogram is a graph showing frequency distribution.
C	Incorrect: A dosimeter is a device for measuring x-ray output.
D	<b>Correct:</b> A nomogram is a chart that permits estimation of BSA from height and weight data.

PTS: 1 REF: Individual Variation of Pharmacological Response  
OBJ: Cognitive Level: Comprehension

3. If the half-life of an antibiotic is 6 hours, the percentage of the original dose that will remain in a client's body 24 hours after a single dose has been administered is:
  - a. 4%.
  - b. 25%.
  - c. 2.5%.
  - d. 6.25%.

ANS: D

	Feedback
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<b>A</b>	Incorrect: In 24 hours, the client will have more than 4% remaining.
<b>B</b>	Incorrect: The client will have 25% remaining after 12 hours.
<b>C</b>	Incorrect: The client will have more than 2.5% remaining.
<b>D</b>	<b>Correct:</b> As each 6-hour interval (one half-life) elapses, the drug concentration in the body is further reduced by 50% of what it was at the beginning of the interval.

PTS: 1

REF: Measuring Drug Action

OBJ: Cognitive Level: Application

4. When a drug, such as an antibiotic, is classified as a “legend drug,” this means that:
- the drug may be sold directly to the consumer without a prescription.
  - it is a controlled substance, regulated by law.
  - it is labeled with the caution, “Federal law prohibits dispensing without prescription.”
  - it contains extensive information in the package.

ANS: C

	<b>Feedback</b>
<b>A</b>	Incorrect: This is a nonprescription agent.
<b>B</b>	Incorrect: Controlled substances are legend drugs, but so are all prescription drugs.
<b>C</b>	<b>Correct:</b> All prescription drugs are legend drugs.
<b>D</b>	Incorrect: This is not the definition of a legend drug, nor does this statement define what is meant by “extensive.”

PTS: 1

REF: Classification of Drugs

OBJ: Cognitive Level: Knowledge

5. Abnormal reactivity that is based on genetic factors and may occur with the first exposure to a drug is known as a(n):
- idiosyncratic effect.
  - side effect.
  - hypersensitivity reaction.
  - allergic reaction.

ANS: A

	<b>Feedback</b>
<b>A</b>	<b>Correct:</b> An idiosyncratic drug reaction is an adverse reaction that can occur with the first exposure to the drug.
<b>B</b>	Incorrect: This is an additional effect other than the intended effects of the drug.
<b>C</b>	Incorrect: A hypersensitivity reaction occurs in the client who has previously been exposed to the drug.
<b>D</b>	Incorrect: The allergic reaction is the same as a hypersensitivity reaction.

PTS: 1

REF: Adverse Drug Effects

OBJ: Cognitive Level: Comprehension

6. The study of the biochemical and physiological effects of drugs as well as their mechanism(s) of action is called:
- pharmacodynamics.
  - pharmacognosy.
  - pharmacokinetics.
  - pharmacotherapeutics.

ANS: A

	<b>Feedback</b>
<b>A</b>	<b>Correct:</b> The question defines pharmacodynamics.
<b>B</b>	Incorrect: This is the study derived from herbal and other natural sources.
<b>C</b>	Incorrect: This is the study of the absorption, distribution, biotransformation, and

	excretion of drugs.
<b>D</b>	Incorrect: This is the study of how drugs may best be used in the treatment of illness.

PTS: 1

REF: Pharmacodynamics

OBJ: Cognitive Level: Knowledge

7. Soft gelatin capsules are most commonly employed in encapsulating:
- sustained-release dosage forms.
  - drugs that do not easily dissolve in stomach fluids.
  - large drug doses.
  - liquid drugs.

ANS: D

	<b>Feedback</b>
<b>A</b>	Incorrect: These are forms of hard-shelled capsules.
<b>B</b>	Incorrect: Soft gelatin capsules usually are designed to encapsulate liquid medications.
<b>C</b>	Incorrect: This is not a use for gelatin capsules.
<b>D</b>	<b>Correct:</b> Soft gelatin capsules usually are designed to encapsulate liquid medications.

PTS: 1

REF: Dosage Forms

OBJ: Cognitive Level: Knowledge

8. A liquid medicinal product that contains both oil and water is known as a(n):
- emulsion.
  - elixir.
  - suspension.
  - tincture.

ANS: A

	<b>Feedback</b>
<b>A</b>	<b>Correct:</b> An emulsion is a dispersion of fine droplets of an oil in water or water in oil.
<b>B</b>	Incorrect: An elixir is a liquid that contains a solvent mixture of alcohol and water.
<b>C</b>	Incorrect: A suspension is a liquid dosage form that contains solid drug particles suspended in a suitable liquid.
<b>D</b>	Incorrect: A tincture is a solution that contains alcohol as a primary solvent; although water may be used and is used for both external and internal use.

PTS: 1

REF: Dosage Forms

OBJ: Cognitive Level: Knowledge

9. The Controlled Substance Act classifies drugs according to their potential for abuse and it also:
- regulates drugs used for clinical research.
  - regulates the manufacture and distribution of drugs that may cause dependence.
  - permits the sale of a drug without a prescription in some states.
  - designates that certain drugs be handled as legend drugs.

ANS: B

	<b>Feedback</b>
<b>A</b>	Incorrect: The FDA develops the requirements for investigational drugs.
<b>B</b>	<b>Correct:</b> The Controlled Substance Act of 1970 identified agents with the potential for abuse or physical or emotional dependence and placed them in categories called schedules. There are five numbered schedules that decrease in abuse and dependency potential as the number increases.
<b>C</b>	Incorrect: This is part of the Food, Drug, and Cosmetic Act of 1938.
<b>D</b>	Incorrect: This is part of the Food, Drug, and Cosmetic Act of 1938 as an amendment in 1952.

PTS: 1 REF: Classification of Drugs  
OBJ: Cognitive Level: Comprehension

10. Secretion of a drug into the renal tubule generally occurs at the:
- a. loop of Henle.
  - b. proximal tubule.
  - c. distal tubule.
  - d. collecting duct.

ANS: B

	Feedback
A	Incorrect: Secretion of the drug into the renal tubule does not occur at the loop of Henle.
B	<b>Correct:</b> As shown in Figure 1-12, the secretion of the drug into the renal tubule occurs at the proximal tubule.
C	Incorrect: Secretion of the drug into the renal tubule does not occur at the distal tubule.
D	Incorrect: Secretion of the drug into the renal tubule does not occur at the collecting duct.

PTS: 1 REF: Figure 1-12 OBJ: Cognitive Level: Comprehension

11. A dosage form that is to be inserted into one of the external orifices of the body, for example, the rectum, is called a:
- a. troche.
  - b. lozenge.
  - c. suppository.
  - d. suspension.

ANS: C

	Feedback
A	Incorrect: This is a lozenge.
B	Incorrect: This is a troche.
C	<b>Correct:</b> A suppository is a dosage form that is to be inserted into the vagina, rectum, or urethra that dissolves or melts at body temperature and absorbs through mucous membranes.
D	Incorrect: This is a solution most commonly administered orally.

PTS: 1 REF: Dosage Forms  
OBJ: Cognitive Level: Comprehension

12. Because aspirin can be purchased without a prescription order form, it is called a(n):
- a. prescription drug.
  - b. over-the-counter drug.
  - c. legend drug.
  - d. illicit drug.

ANS: B

	Feedback
A	Incorrect: Aspirin is a nonprescription agent.
B	<b>Correct:</b> Aspirin can be purchased without a prescription and is also termed an over-the-counter (OTC) agent.
C	Incorrect: Aspirin is not a legend drug.
D	Incorrect: Aspirin is FDA approved.

PTS: 1 REF: Nonprescription Drugs  
OBJ: Cognitive Level: Comprehension

13. The process by which a drug passes into the fluids of the body is called:
- absorption.
  - distribution.
  - biotransformation.
  - elimination.

ANS: A

	Feedback
A	<b>Correct:</b> Absorption is the process by which a drug passes from the site of administration into the body fluids that will carry it to its site(s) of action.
B	Incorrect: Distribution is the process by which a drug is carried from its site of absorption to its site of action.
C	Incorrect: Biotransformation is drug metabolism to a water-soluble form.
D	Incorrect: Elimination is the excretion of the drug from the body.

PTS: 1 REF: Pharmacokinetic Factors in Drug Therapy  
OBJ: Cognitive Level: Knowledge

14. Drug molecules that are bound to plasma proteins are:
- ready for elimination.
  - pharmacologically inactive.
  - pharmacologically active.
  - biotransformed.

ANS: B

	Feedback
A	Incorrect: They have not been distributed to their site of action.
B	<b>Correct:</b> Protein-bound drugs are unable to elicit a pharmacological effect until the active drug level falls.
C	Incorrect: Once the drug is released from the plasma protein, it is pharmacologically active.
D	Incorrect: Protein-binding occurs during distribution.

PTS: 1 REF: Figure 1-11 OBJ: Cognitive Level: Comprehension

15. The minimal level of a drug required to elicit a pharmacological response is called the:
- therapeutic window.
  - peak plasma level.
  - minimum toxic concentration.
  - minimum effective concentration.

ANS: D

	Feedback
A	Incorrect: This describes the time frame for a drug to elicit a therapeutic response.
B	Incorrect: This is when the elimination rate of the drug is equivalent to its rate of absorption.
C	Incorrect: This describes the minimum amount of the drug it takes to elicit toxic response.
D	<b>Correct:</b> The question describes the least amount of the drug needed to elicit the expected pharmacological response.

PTS: 1 REF: Figure 1-15 OBJ: Cognitive Level: Comprehension

16. When the pharmacological effects of one drug are potentiated or diminished by another drug, it is called a:
- drug interaction.
  - chemical incompatibility.
  - physical incompatibility.
  - biotransformation.

ANS: A

	Feedback
A	<b>Correct:</b> This is the definition of drug interaction, which can be synergistic (potentiate the effects) or antagonistic (diminish the effects).
B	Incorrect: Chemical incompatibility involves conflicting drug actions that usually change the appearance of the mixture.
C	Incorrect: Physical incompatibility means the physical properties result in conflicting drug actions.
D	Incorrect: This refers to the metabolism of the drug.

PTS: 1

REF: Drug Interactions

OBJ: Cognitive Level: Knowledge

17. The “clinical pharmacology” section of a drug product insert describes:
- possible ways to treat toxic effects caused by the drug.
  - physical and chemical properties of the active drug in the product.
  - situations when the drug product should not be used.
  - the mechanism of action of the active drug in the human body.

ANS: D

	Feedback
A	Incorrect: This is in the “overdose” section.
B	Incorrect: This is in the “description” section.
C	Incorrect: This is in the “contraindication” section.
D	<b>Correct:</b> The “clinical pharmacology” section of the drug insert describes the mechanism of action of the active drug in the human body.

PTS: 1

REF: The Drug Insert

OBJ: Cognitive Level: Knowledge

18. A physician has prescribed enteric-coated tablets for the client. The nurse knows that which of the following is true about enteric-coated tablets?
- The tablets should be administered with antacids.
  - The tablets are designed to carry drugs that can irritate the stomach.
  - The tablets are designed to dissolve in the stomach.
  - The tablets should be crushed.

ANS: B

	Feedback
A	Incorrect: Most enteric-coated agents should not be taken with antacids.
B	<b>Correct:</b> Enteric-coated tablets are designed to carry drugs that can irritate the stomach.
C	Incorrect: Enteric-coated tablets are designed to dissolve in the duodenum.
D	Incorrect: Enteric-coated tablets should never be crushed.

PTS: 1

REF: Dosage Forms

OBJ: Cognitive Level: Comprehension

19. The client was switched from a brand-name drug to a generic version of the same drug. The nurse knows to assess the client’s response because:
- it is possible for the client to respond in a different manner to the generic version.
  - the generic version of the same drug will be a different dose.
  - the drugs are made by different manufacturers.

d. manufacturers of generic drugs do not have to comply with FDA rules.

ANS: A

	Feedback
A	<b>Correct:</b> Because the generic drug may not be bioequivalent to the brand name due to differences in formulation, clients can react differently to the generic form.
B	Incorrect: The drug and dosage would be the same.
C	Incorrect: The fact that the drugs are made by different manufacturers does not necessarily mean they will not be bioequivalent.
D	Incorrect: This is a false statement.

PTS: 1

REF: Drug Names OBJ: Cognitive Level: Application

20. Drug-induced teratogenesis is most likely to occur:

- a. during the first trimester of pregnancy.
- b. during the second trimester of pregnancy.
- c. during the third trimester of pregnancy.
- d. during labor and delivery.

ANS: A

	Feedback
A	<b>Correct:</b> This is true, because this is the time of active and rapid development of new fetal organs.
B	Incorrect: Although these effects can occur then, this is a period of less formation and more maturation.
C	Incorrect: Although these effects can occur then, this is a period of less formation and more maturation.
D	Incorrect: This is the time teratogens are least likely to affect the fetus, although they certainly can affect the fetus at this time.

PTS: 1

REF: Adverse Drug Effects

OBJ: Cognitive Level: Comprehension

21. The client is an elderly woman with mild liver damage due to hepatitis. The nurse is aware that the client may need reduced dosages of medications because:

- a. her kidneys cannot eliminate medications at the usual rate.
- b. the drugs may accumulate in the client's body and produce toxicity.
- c. the rate of absorption will increase, allowing more drug to enter the bloodstream.
- d. liver damage will cause drugs to bind to plasma proteins.

ANS: B

	Feedback
A	Incorrect: Liver damage does not affect the kidneys's ability to excrete the drug.
B	<b>Correct:</b> This is a cumulative effect of both the drug and active metabolites.
C	Incorrect: Hepatic insufficiency will not increase drug absorption.
D	Incorrect: Drugs binding to plasma proteins is a part of drug distribution, not biotransformation.

PTS: 1

REF: Biotransformation

OBJ: Cognitive Level: Comprehension

22. The client asks the nurse if she should take the herb ginkgo to help with her forgetfulness. The nurse's best response is:
- "Studies have shown ginkgo prevents dementia."
  - "Herbal medicine cannot hurt you, and it might help."
  - "Herbal medicine is used in all cultures with much success."
  - "Herbal medicines are not regulated by the FDA; therefore, their safety and effectiveness cannot be established."

ANS: D

	Feedback
A	Incorrect: This is not an appropriate professional nursing response.
B	Incorrect: Because herbal medicines are not regulated, we do not know whether they can hurt a client.
C	Incorrect: This is not a responsible nursing reply.
D	<b>Correct:</b> This response answers the client's question factually and professionally.

PTS: 1

REF: Herbals and Botanical Medicine

OBJ: Cognitive Level: Application

23. The study of how drugs are best used to treat illness is called:
- pharmacodynamics.
  - pharmacognosy.
  - pharmacokinetics.
  - pharmacotherapeutics.

ANS: D

	Feedback
A	Incorrect: Pharmacodynamics is the study of the biochemical and physiological effects and mechanisms of action of drugs.
B	Incorrect: Pharmacognosy is the study of drugs developed from herbal or other natural sources.
C	Incorrect: Pharmacokinetics is the study of the absorption, distribution, biotransformation, and excretion of drugs.
D	<b>Correct:</b> Pharmacotherapeutics also studies which drug would be most or least appropriate to use for a specific disease.

PTS: 1

REF: Pharmacotherapeutics

OBJ: Cognitive Level: Knowledge

24. Sterile sealed glass containers that hold a single liquid dose are called:
- syringes.
  - ampules.
  - tubes.
  - vials.

ANS: B

	Feedback
A	Incorrect: Usually these are plastic for the administration of medications.
B	<b>Correct:</b> This is the definition of ampules.
C	Incorrect: Tubes may or may not be sterile and sealed.
D	Incorrect: These are small sterile glass medication containers that hold either single or multiple doses accessed through a rubber diaphragm.

PTS: 1

REF: Parenteral Products

OBJ: Cognitive Level: Knowledge

25. During the earliest stages of development, the first name applied to a new drug is its:
- chemical name.
  - brand name.



- b. generic name. d. nonproprietary name.

ANS: A

	Feedback
A	<b>Correct:</b> The chemical name is derived from the chemical structure of the drug.
B	Incorrect: The generic name is adopted once the drug is ready to be marketed.
C	Incorrect: The brand, or trade, name is assigned when the drug appears to be ready for commercial distribution.
D	Incorrect: This is the same as the generic name.

PTS: 1

REF: The Product Insert

OBJ: Cognitive Level: Knowledge

26. Under the Controlled Substances Act of 1970, Schedule 1 drugs are those that have:
- the lowest potential for abuse.
  - low potential for abuse, but may lead to psychological dependence.
  - high potential for abuse, but do have currently accepted medical uses.
  - high potential for abuse and no accepted medical use in the United States.

ANS: D

	Feedback
A	Incorrect: These drugs are in Schedule V.
B	Incorrect: This does not describe any schedule.
C	Incorrect: These drugs are in Schedule II.
D	<b>Correct:</b> These are drugs like heroin, LSD, and so on.

PTS: 1

REF: Box 1-1

OBJ: Cognitive Level: Comprehension

27. Drugs that are administered via the sublingual route:
- have a longer-lasting effect than those administered by mouth.
  - are absorbed directly into the bloodstream.
  - are absorbed and transported directly to the liver.
  - are prone to rapid chemical decomposition because of absorption in the mouth.

ANS: B

	Feedback
A	Incorrect: Sublingual medications have a more rapid onset of action, but do not have as long a duration as most oral medications.
B	<b>Correct:</b> They have a more rapid onset of action, because they are directly absorbed into the bloodstream.
C	Incorrect: They are absorbed into the bloodstream to their site of action before any biotransformation by the liver.
D	Incorrect: The liver is the primary site of biotransformation.

PTS: 1

REF: Dosage Forms

OBJ: Cognitive Level: Comprehension

28. Some clinical trials have indicated that garlic may have which of the following beneficial effects?
- It helps improve stamina, concentration, and energy.
  - It reduces the risk of heart attack and stroke.
  - It helps prevent depression.
  - It reduces the risk of ovarian cancer.

ANS: B

	Feedback
A	Incorrect: Garlic's primary benefits are cardiovascular.
B	<b>Correct:</b> Garlic is used for hyperlipidemia and age-related vascular changes, such as those that can occur in the vessels of the brain and coronary arteries of the heart.
C	Incorrect: Garlic has no labeled use in preventing or treating depression.
D	Incorrect: Garlic has no labeled use in preventing or treating ovarian cancer.

PTS: 1 REF: Herbal and Botanical Medicine  
OBJ: Cognitive Level: Comprehension

29. When administering medications, the nurse understands that:
- adverse effects do not result from the normal pharmacological effects of the medication.
  - only certain drugs have the ability to produce toxic effects.
  - allergic reactions are not the result of the pharmacological effects of the medication.
  - toxic effects are not related to the dosage of the medication that is administered.

ANS: C

	Feedback
A	Incorrect: Adverse effects do result from the normal pharmacological action of the medication.
B	Incorrect: All drugs have the potential to produce toxic effects.
C	<b>Correct:</b> Allergic reactions are not the result of the pharmacological effects of the medication.
D	Incorrect: Toxic effects are related to the dosage of the medication administered.

PTS: 1 REF: Adverse Drug Effects OBJ: Cognitive Level: Application

30. After receiving numerous doses of a narcotic for pain, the client seems to require the medication more often and states that it does not seem to be working now. The nurse understands that this probably represents the client having developed \_\_\_\_ to the medication or dose
- tolerance
  - psychological dependence
  - cognitive dependence
  - synergism

ANS: A

	Feedback
A	<b>Correct:</b> Tolerance or resistance to the effects of the drug occurs with certain drugs, including narcotics.
B	Incorrect: This occurs when the drug is the center of the client's thoughts, which is not indicated in this question.
C	Incorrect: This is not a defined response.
D	Incorrect: This is not a type of client reaction to medication.

PTS: 1 REF: Individual Variation of Pharmacological Response  
OBJ: Cognitive Level: Comprehension

31. The nurse understands that when administering a medication, the route of administration primarily affects the drug's:
- elimination.
  - absorption.
  - distribution.
  - biotransformation.

ANS: B

	Feedback
A	Incorrect: The route does not affect the process of elimination.
B	<b>Correct:</b> Absorption is the process by which a drug passes from its site of administration into the fluids of the body.
C	Incorrect: The route does not affect the process of distribution.
D	Incorrect: The route does not affect the process of biotransformation.

PTS: 1 REF: Measuring Drug Action  
OBJ: Cognitive Level: Comprehension

32. A client who is taking black cohosh for PMS is talking to the nurse about considering getting pregnant. What would be the best response for the nurse?
- “Black cohosh will help with your migraine headaches while you are pregnant.”
  - “Taking herbals, especially black cohosh, will decrease your morning sickness.”
  - “Pregnancy will eliminate your PMS, but continue to take it anyway.”
  - “Pregnancy is a contraindication for taking black cohosh.”

ANS: D

	Feedback
A	Incorrect: Black cohosh does not treat migraine headaches and is contraindicated during pregnancy, due to increased risk of miscarriage.
B	Incorrect: Black cohosh does not treat nausea and is contraindicated during pregnancy, due to increased risk of miscarriage.
C	Incorrect: Black cohosh is contraindicated during pregnancy, due to increased risk of miscarriage.
D	<b>Correct:</b> Black cohosh is contraindicated during pregnancy, due to increased risk of miscarriage.

PTS: 1 REF: Table 1-1 OBJ: Cognitive Level: Application

33. A client taking a medication to increase the time it takes to clot her blood (anticoagulant) has a long history of using herbal agents. Which of the following statements made by the client would indicate the need for further teaching?
- “I should not take feverfew, because it increases the effects of my medication.”
  - “I can take ginger for my motion sickness when I fly.”
  - “I can take black cohosh for my PMS because there is no known interaction with my anticoagulant medication.”
  - “I can continue to use the garlic for a dietary supplement to decrease my cholesterol.”

ANS: D

	Feedback
A	Incorrect: This is a true statement, illustrating client understanding.
B	Incorrect: This is a true statement, illustrating client understanding.
C	Incorrect: This is a true statement, illustrating client understanding.
D	<b>Correct:</b> Garlic has been shown to increase the risk of bleeding in clients taking anticoagulant medications.

PTS: 1 REF: Table 1-1 OBJ: Cognitive Level: Application

34. A client has renal insufficiency and is taking multiple medications. The nurse understands that:
- this can affect how the medications are distributed in the body.
  - as long as the client's liver function is normal, no adjustment in dosage is required.
  - the client should stop all medications until renal function improves.
  - the client may need to have lower dosages, because of the risk of accumulation of the medications.

ANS: D

	Feedback
A	Incorrect: Renal insufficiency affects elimination, not distribution, of medications.
B	Incorrect: Even with unimpaired liver function, the dosages may need to be decreased to prevent cumulative effects of medications secondary to lack of normal renal elimination function.
C	Incorrect: This action will put the client at risk, which could be life-threatening.
D	<b>Correct:</b> The kidneys are the primary route of drug elimination, so for this client, decreased dosages may be required to prevent cumulative effects of medications.

PTS: 1 REF: Biotransformation

OBJ: Cognitive Level: Comprehension

35. The nurse understands that microsomal enzymes are important in which pharmacokinetic factor in drug therapy?
- absorption
  - distribution
  - biotransformation
  - liberation

ANS: C

	Feedback
A	Incorrect: Absorption does not involve microsomal enzymes.
B	Incorrect: Distribution does not involve microsomal enzymes.
C	<b>Correct:</b> Microsomal enzymes originate in the smooth endoplasmic reticulum of the liver and are necessary for metabolism, or biotransformation, of drugs.
D	Incorrect: Liberation does not involve microsomal enzymes.

PTS: 1 REF: Biotransformation

OBJ: Cognitive Level: Comprehension

36. What action should the nurse take before administering a drug in suspension form?
- Administer the drug in its separated form.
  - Prepare the intravenous line for administration of the drug.
  - Document the administration time.
  - Shake the suspension thoroughly.

ANS: D

	Feedback
A	Incorrect: The dosage will be altered, if the suspension is administered in its separated form.
B	Incorrect: Most suspensions are administered orally.
C	Incorrect: The administration of a drug should never be documented until after the administration.
D	<b>Correct:</b> Suspension must be shaken thoroughly immediately before administration.

PTS: 1

REF: Dosage Forms

OBJ: Cognitive Level: Application

37. The nurse is preparing to administer an antibiotic to a client. The nurse understands that the use of the antibiotic is:
- diagnostic.
  - preventive.
  - health maintenance.
  - curative.

ANS: D

	Feedback
A	Incorrect: Drug usage for diagnostic purposes include TB skin test, radiopaque dye, and so on.
B	Incorrect: Immunizations are examples of preventive drug use.
C	Incorrect: Insulin is an example of a health maintenance agent.
D	<b>Correct:</b> Antibiotics are given to cure an infection.

PTS: 1

REF: Drug Uses

OBJ: Cognitive Level: Comprehension

38. The client is concerned about payment for medications. Which would be the best reply by the nurse?
- "You will need to ask your health care provider to write a prescription for a different medication."
  - "I am sorry, but I am not allowed to discuss costs of medications. You will need to consult the pharmacist."
  - "There are agencies that provide assistance. One is PPA (Partners for Prescription Assistance). I will be glad to give you their Web site information."
  - "Prescription cost is a concern for most of our clients."

ANS: C

	Feedback
A	Incorrect: A different medication might not be an option.
B	Incorrect: The nurse should have knowledge of resources.
C	<b>Correct:</b> This assists the client with his or her concerns.
D	Incorrect: This would not be a proper answer to give the client.

PTS: 1

REF: Cost of New Drug Development

OBJ: Cognitive Level: Application

39. Green tea contains small amounts of vitamin K. Thus, oral use can decrease the properties of which of the following medications?
- aminophylline
  - penicillin
  - APAP
  - warfarin

ANS: D

	Feedback
A	Incorrect: This medication would not be affected.
B	Incorrect: This medication would not be affected.
C	Incorrect: This medication would not be affected.
D	<b>Correct:</b> Green tea can affect the properties of warfarin.

PTS: 1

REF: Herbals and Botanical Medicine

OBJ: Cognitive Level: Application

## MULTIPLE RESPONSE

40. The nurse understands that which of the following are necessary pieces of information needed when measuring the plasma concentration of a drug? Select all that apply.
- a. client's age and weight
  - b. client's renal, hepatic, and cardiovascular functioning status
  - c. client's family history of using this drug
  - d. client's use of other medications
  - e. whether the client has ever received a blood transfusion
  - f. whether the client has been diagnosed with rheumatoid arthritis within the last 6 months

ANS: A, B, D

	Feedback
<b>Correct</b>	Answers a, b, and d are necessary information when measuring the plasma concentration of a drug.
<b>Incorrect</b>	Answer c, e, and f are incorrect, because none of these would affect the plasma concentration of a drug.

PTS: 1 REF: Safe Nursing Practice 1-3  
OBJ: Cognitive Level: Comprehension

41. The nurse is preparing to administer acetaminophen with codeine to a postoperative client, understanding that this agent is which of the following? Select all that apply.
- a. Schedule II agent
  - b. Schedule III agent
  - c. controlled substance
  - d. nonprescription drug
  - e. Schedule V agent
  - f. legend drug, since it would require a health care provider order

ANS: B, C, F

	Feedback
<b>Correct</b>	Answers b, c, and f are correct, as acetaminophen with codeine is a Schedule III controlled substance and is a legend drug.
<b>Incorrect</b>	Answers a, d, and e are incorrect, as acetaminophen with codeine is not a Schedule II nor a Schedule V controlled substance and requires a prescription.

PTS: 1 REF: Box 1-1 OBJ: Cognitive Level: Comprehension

42. The client questions the nurse about the topical use of aloe vera. The nurse's best response would include which of the following? Select all that apply.
- a. No contradictions for the topical use of aloe vera are listed.
  - b. The effectiveness of topical aloe vera use has been substantiated through research.
  - c. There are no known adverse effects.
  - d. There are no known drug interactions.
  - e. This should be used only when obtained with a health care provider order.
  - f. Aloe vera should be used only in the oral form.

ANS: A, B, C, D

	Feedback
<b>Correct</b>	Answers a, b, c, and d are correct information to be provided to the client.
<b>Incorrect</b>	Answers e and f are incorrect. Aloe vera topical does not require a prescription.

PTS: 1

REF: Herbs and Botanical Medicine

OBJ: Cognitive Level: Application