Chapter 1. History of Pharmacology

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

____ 1. The Greek word *pharmakon* means
a. medicine.
b. poison.
c. remedy.
d. medicine, poison, and remedy.

____ 2. The Dutch word *droog* means
a. drop.
b. drug.
c. dry.
d. dirge.

____ 3. Most ancient societies treated illness based on
a. visions received by medicine men.
b. trial and error.
c. religion.
d. animal sacrifice.

____ 4. Early records show that pharmacological treatments consisted of
a. plants.
b. minerals.
c. animal products.
d. plants, minerals, and animal products.

____ 5. What did the Chinese document *The Yellow Emperor's Inner Classic* discuss for the first time?
a. Yin and yang
b. Acupuncture
c. Meditation
d. Yin and yang and acupuncture

____ 6. The first Chinese manual on pharmacology included 365 medicines and was written in the
a. 1st century CE.
b. 2nd century CE.
c. 3rd century CE.
d. 4th century CE.

____ 7. The Ebers Papyrus is
a. an Iranian medical text written approximately 400 BCE.
b. an Egyptian medical document written approximately 1550 BCE.
c. an Eskimo medical paper written approximately 750 BCE.
d. a Roman medical document written approximately 600 BCE.

____ 8. The Ebers Papyrus contains

a. recipes for treating a variety of illnesses.
b. the first detailed drawing of the human anatomy.
c. journal entries of early healers.
d. death records

____ 9. Al-Razi, an Iranian, wrote a 20-volume medical book named
a. *Hawi-Al.*
b. *Rad-Mal.*
c. *Al-Hawi.*
d. *Mal-Rad.*

____ 10. Examples of healers include all of the following except
a. wise men.
b. shamans.
c. medicine men and women.
d. Tiki men.
e. witch doctors.

____ 11. What event marked the beginning of modern pharmacology?
a. Chemists isolating pure chemicals from plants
b. The discovery of microorganisms
c. The ability to create medication in a laboratory setting
d. Mass production of medication

____ 12. The main cause of death of U.S. soldiers during World War I was
a. infection.
b. accidents.
c. combat injuries.
d. infection and accidents.

____ 13. What obstacle needed to be overcome to provide penicillin to soldiers during World War II?
a. The high cost of the drug
b. Transportation of the drug
c. Production of penicillin in large enough quantities
d. Education of doctors about penicillin

____ 14. The science of altering the source of drugs, allowing more to be produced or creating different variations of the source, is known as
a. genetic engineering.
b. pharmacological engineering.
c. medication manipulation.
d. pharmacological harvesting

____ 15. Pharmacological advances in the 21st century include which of the following?
a. Gene splicing
b. Pharmacogenetics
c. Plant hybrid development
d. Gene splicing, pharmacogenetics and plant hybrid development

____ 16. What plant is the source of most estrogen hormone replacements?
a. Yams
b. Carrots
c. Acorn squash
d. Broccoli

____ 17. What animal is a source of insulin?
a. Cows
b. Horses
c. Pigs
d. Sheep
e. Both cows and pigs

____ 18. Sources of drugs include all of the following except
a. plants and animals.
b. synthetic materials.
c. minerals.
d. toxins.
e. air.

____ 19. All of the following drugs are derived from plants except
a. aspirin.
b. Novacain
c. ibuprofen.
d. digoxin.
e. vitamin C

____ 20. Animal sources for drugs include
a. horses.
b. cows.
c. pigs.
d. horses, cows, and pigs.

____ 21. The term that refers to the effect a drug has on the body is
a. *pharmacodynamics*.
b. *pharmacokinetics*.
c. *pharmacocites*.
d. *pharmacyclics*.

____ 22. Which of the following drugs is prophylactic?
a. Estrogen
b. Diuretic
c. Flu vaccine
d. Radiopaque dye
e. Fever reducer

____ 23. Which of the following is a replacement drug?
a. Estrogen
b. Diuretic

c. Flu vaccine
d. Radiopaque dye
e. Fever reducer

____ 24. Which of the following drugs is palliative?
a. Estrogen
b. Diuretic
c. Flu vaccine
d. Radiopaque dye
e. Fever reducer

____ 25. What is the source of potassium chloride?
a. Animal
b. Plant
c. Mineral
d. Human
e. Synthetic

____ 26. What is the source of barbiturates?
a. Animal
b. Plant
c. Mineral
d. Human
e. Synthetic

____ 27. Which of the following is a replacement drug?
a. Digoxin
b. Lasix
c. Accutane
d. Synthroid
e. Plavix

____ 28. Which of the following is a diagnostic drug?
a. Estrogen
b. Barium
c. Flu vaccine
d. Anti-cancer drug
e. Vitamin C

____ 29. Which of the following is a destructive drug?
a. Antibiotic
b. Insulin
c. Diuretic
d. Psychotropic
e. Potassium chloride

____ 30. What is a standardized set of health care services a provider can render called?
a. Scope of practice
b. Bill of goods

c. Bill of services
d. Scope of action

Matching

Match the following medication categories with their definitions.

a. Curative
b. Prophylactic
c. Diagnostic
d. Palliative
e. Replacement
f. Destructive

____ 31. Medication that prevents a problem from occurring

____ 32. Medication that helps determine if disease is present

____ 33. Medication that treats and corrects an illness

____ 34. Medication that destroys something

____ 35. Medication that makes the patient more comfortable

____ 36. Medication that supplements or provides something that the patient is lacking

Chapter 1. History of Pharmacology
Answer Section

MULTIPLE CHOICE

1. ANS: D
   Rationale: *Pharmakon* refers to the curing of illness, thus meaning medicine and remedy, as well as to poison, because early medicines were toxic enough to kill a patient or enemy.

   PTS: 1 DIF: Basic TOP: Unit 1: Introduction to Pharmacology
   KEY: History
   MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal V.9 — Identify medical terms labeling the word parts
2. ANS: C
   Rationale: *Droog,* which means dry, is the origin of the word *drug*, such as in the use of dry herbs as medications.

   PTS: 1 DIF: Intermediate TOP: Unit 1: Introduction to Pharmacology
   KEY: History
   MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal V.9 — Identify medical terms labeling the word parts
3. ANS: B
   Rationale: Ancient societies had little knowledge of how the human body worked; therefore, treating illness was often based on trial and error.

   PTS: 1 DIF: Intermediate TOP: Unit 1: Introduction to Pharmacology
   KEY: History
   MSC: ABHES goal — Analyze the effect of hereditary, cultural, and environmental influences | CAAHEP goal V.18 — Discuss examples of diversity
4. ANS: D
   Rationale: Early records show that plants, minerals, and animal products were the only sources available; therefore, they were the only things used.

   PTS: 1 DIF: Basic TOP: Unit 1: Introduction to Pharmacology
   KEY: History
   MSC: ABHES goal — Analyze the effect of hereditary, cultural, and environmental influences | CAAHEP goal V.18 — Discuss examples of diversity
5. ANS: D
   Rationale: This was a very early document discussing yin and yang and acupuncture.

   PTS: 1 DIF: Intermediate TOP: Unit 1: Introduction to Pharmacology
   KEY: History
   MSC: ABHES goal — Analyze the effect of hereditary, cultural, and environmental influences | CAAHEP goal V.18 — Discuss examples of diversity
6. ANS: A

Rationale: The first Chinese manual on pharmacology was written in the 1st century CE and included 365 medicines, 252 of which were herbs.

PTS: 1 DIF: Basic TOP: Unit 1: Introduction to Pharmacology
KEY: History
MSC: ABHES goal — Analyze the effect of hereditary, cultural, and environmental influences | CAAHEP goal V.18 — Discuss examples of diversity

7. ANS: B
Rationale: The Ebers Papyrus is an Egyptian medical document that was written circa 1550 B.C. and lists about 700 "recipes" for a host of illnesses, from crocodile bites to psychiatric illnesses.

PTS: 1 DIF: Basic TOP: Unit 1: Introduction to Pharmacology
KEY: Ebers Papyrus | History
MSC: ABHES goal — Analyze the effect of hereditary, cultural, and environmental influences | CAAHEP goal V.18 — Discuss examples of diversity

8. ANS: A
Rationale: The Ebers Papyrus is an Egyptian medical document that was written circa 1550 BCE and lists about 700 "recipes" for a host of illnesses, from crocodile bites to psychiatric illnesses.

PTS: 1 DIF: Intermediate TOP: Unit 1: Introduction to Pharmacology
KEY: Ebers Papyrus | History
MSC: ABHES goal — Analyze the effect of hereditary, cultural, and environmental influences | CAAHEP goal V.18 — Discuss examples of diversity

9. ANS: C
Rationale: *Al-Hawi* is a 20-volume medical book written by the Iranian Al-Razi. This text was translated into Latin in the 13th century, greatly influencing medicine in medieval Europe.

PTS: 1 DIF: Basic TOP: Unit 1: Introduction to Pharmacology
KEY: Al-Hawi | History
MSC: ABHES goal — Analyze the effect of hereditary, cultural, and environmental influences | CAAHEP goal V.18 — Discuss examples of diversity

10. ANS: D
Rationale: Healers were known as wise men, shamans, witch doctors, and medicine men and women.

PTS: 1 DIF: Basic TOP: Unit 1: Introduction to Pharmacology
KEY: History
MSC: ABHES goal — Analyze the effect of hereditary, cultural, and environmental influences | CAAHEP goal V.18 — Discuss examples of diversity

11. ANS: A
Rationale: During the 1800s, chemists were finally able to isolate the pure chemicals needed to make medicine from plants, marking the beginning of modern pharmacology.

PTS: 1 DIF: Intermediate TOP: Unit 1: Introduction to Pharmacology
KEY: History
MSC: ABHES goal — Analyze the effect of hereditary, cultural, and environmental influences | CAAHEP goal V.18 — Discuss examples of diversity

12. ANS: D

Rationale: More U.S. soldiers died in World War I of infection and accidents than of actual combat injuries.

PTS: 1 DIF: Intermediate TOP: Unit 1: Introduction to Pharmacology
KEY: History
MSC: ABHES goal — Analyze the effect of hereditary, cultural, and environmental influences | CAAHEP goal V.18 — Discuss examples of diversity

13. ANS: C
Rationale: During World War II, mass production of penicillin began and was able to provide the antibiotic to the war effort, thus minimizing deaths caused by infection.

PTS: 1 DIF: Intermediate TOP: Unit 1: Introduction to Pharmacology
KEY: History | Penicillin
MSC: ABHES goal — Analyze the effect of hereditary, cultural, and environmental influences | CAAHEP goal V.18 — Discuss examples of diversity

14. ANS: A
Rationale: Genetic engineering can alter the source of drugs, allowing more to be produced or creating different variations of the source.

PTS: 1 DIF: Intermediate TOP: Unit 1: Introduction to Pharmacology
KEY: History | Genetic engineering
MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal V.9 — Identify medical terms labeling the word parts

15. ANS: B
Rationale: In the 21st century, pharmacogenetics studies the individual candidate genes to specifically match medications to the patient through their genetic makeup.

PTS: 1 DIF: Basic TOP: Unit 1: Introduction to Pharmacology
KEY: History | Pharmacogenetics
MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal V.9 — Identify medical terms labeling the word parts

16. ANS: A
Rationale: Most estrogen hormone replacements come from yams.

PTS: 1 DIF: Basic TOP: Unit 1: Introduction to Pharmacology
KEY: History | Drug sources
MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal V.9 — Identify medical terms labeling the word parts

17. ANS: E
Rationale: Insulin is collected from the pancreases of cows or pigs.

PTS: 1 DIF: Basic TOP: Unit 1: Introduction to Pharmacology
KEY: History | Drug sources
MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal V.9 — Identify medical terms labeling the word parts

18. ANS: E
Rationale: Drug sources include synthetic materials (manufactured in a sterile clinical lab), plants, animals, minerals, and toxins.

PTS: 1 DIF: Basic TOP: Unit 1: Introduction to Pharmacology
KEY: History | Drug sources
MSC: ABHES goal — Identify drug classification | CAAHEP goal V.9 — Identify medical terms labeling the word parts

19. ANS: C
Rationale: Ibuprofen is an example of a medication that is produced synthetically in a laboratory. Aspirin comes from bark of the white willow tree, Rose hips are a rich source of vitamin C, digoxin comes from the foxglove plant, and Novocain comes from the coca plant.

PTS: 1 DIF: Intermediate TOP: Unit 1: Introduction to Pharmacology
KEY: History | Drug sources
MSC: ABHES goal — Identify drug classification | CAAHEP goal V.9 — Identify medical terms labeling the word parts

20. ANS: D
Rationale: Domesticated animals are used for some medications. Premarin is produced from a pregnant mare's urine, cows and pigs provide hormone replacement medications such as insulin, and lanolin is made from sheep's wool.

PTS: 1 DIF: Basic TOP: Unit 1: Introduction to Pharmacology
KEY: History | Drug sources
MSC: ABHES goal — Identify drug classification | CAAHEP goal V.9 — Identify medical terms labeling the word parts

21. ANS: A
Rationale: Pharmacodynamics refers to the effect a drug has on the body or, scientifically, the negative and positive biochemical and physiological changes it creates.

PTS: 1 DIF: Intermediate TOP: Unit 1: Introduction to Pharmacology
KEY: History | Pharmacology
MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal V.9 — Identify medical terms labeling the word parts

22. ANS: C
Rationale: The flu vaccine is administered to prevent the patient from contracting influenza.

PTS: 1 DIF: Intermediate TOP: Unit 1: Introduction to Pharmacology
KEY: Pharmacology
MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal V.9 — Identify medical terms labeling the word parts

23. ANS: A
Rationale: Estrogen is a female hormone that is lost when the ovaries no longer function appropriately because of disease or surgery. Therefore, estrogen would be administered to replace the naturally occurring estrogen that is now absent.

PTS: 1 DIF: Intermediate TOP: Unit 1: Introduction to Pharmacology

KEY: Pharmacology
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24. ANS: E
Rationale: Fever reducers such as acetaminophen are administered as a palliative measure, which means that the patient is being given medication to ease symptoms, not cure disease.

PTS: 1 DIF: Intermediate TOP: Unit 1: Introduction to Pharmacology
KEY: Pharmacology
MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal V.9 — Identify medical terms labeling the word parts

25. ANS: C
Rationale: Potassium is necessary for the heart to function properly, so patients who are at risk for potassium deficiencies are given the medication potassium chloride, which is obtained from the earth in mineral form.

PTS: 1 DIF: Basic TOP: Unit 1: Introduction to Pharmacology
KEY: Pharmacology
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26. ANS: E
Rationale: Barbiturates are examples of medications produced in sterile laboratories and, therefore, are synthetic medications.

PTS: 1 DIF: Intermediate TOP: Unit 1: Introduction to Pharmacology
KEY: Pharmacology
MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal V.9 — Identify medical terms labeling the word parts

27. ANS: D
Rationale: Synthroid is a form of thyroid hormone that is used as a replacement when the thyroid gland is not producing enough of the hormone on its own.

PTS: 1 DIF: Intermediate TOP: Unit 1: Introduction to Pharmacology
KEY: Pharmacology
MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal V.9 — Identify medical terms labeling the word parts

28. ANS: B
Rationale: Barium is used to make soft organs more visible during radiography, thus helping to diagnose disease processes.

PTS: 1 DIF: Intermediate TOP: Unit 1: Introduction to Pharmacology
KEY: Pharmacology
MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal

V.9 — Identify medical terms labeling the word parts

29. ANS: A
Rationale: Antibiotics are considered destructive drugs because they kill or destroy bacteria.

PTS: 1 DIF: Advanced TOP: Unit 1: Introduction to Pharmacology
KEY: Pharmacology
MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal V.9 — Identify medical terms labeling the word parts

30. ANS: A
Rationale: All health care providers must work within their scope of practice, which is a standardized set of health care services a provider can render and the extent they may do so independently. These functions are based on state laws and the provider's education, experience, and skills.

PTS: 1 DIF: Basic TOP: Unit 1: Introduction to Pharmacology
KEY: Pharmacology
MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal V.9 — Identify medical terms labeling the word parts

MATCHING

31. ANS: B PTS: 1 DIF: Intermediate
TOP: Unit 1: Introduction to Pharmacology KEY: Pharmacology
MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal V.9 — Identify medical terms labeling the word parts

32. ANS: C PTS: 1 DIF: Intermediate
TOP: Unit 1: Introduction to Pharmacology KEY: Pharmacology
MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal V.9 — Identify medical terms labeling the word parts

33. ANS: A PTS: 1 DIF: Intermediate
TOP: Unit 1: Introduction to Pharmacology KEY: Pharmacology
MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal V.9 — Identify medical terms labeling the word parts

34. ANS: F PTS: 1 DIF: Intermediate
TOP: Unit 1: Introduction to Pharmacology KEY: Pharmacology
MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal V.9 — Identify medical terms labeling the word parts

35. ANS: D PTS: 1 DIF: Intermediate
TOP: Unit 1: Introduction to Pharmacology KEY: Pharmacology
MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal V.9 — Identify medical terms labeling the word parts

36. ANS: E PTS: 1 DIF: Intermediate

TOP: Unit 1: Introduction to Pharmacology KEY: Pharmacology
MSC: ABHES goal — Define and use entire basic structure of medical words and be able to accurately identify in the correct context, i.e., root, prefix, suffix, combinations, spelling, and definitions | CAAHEP goal V.9 — Identify medical terms labeling the word parts