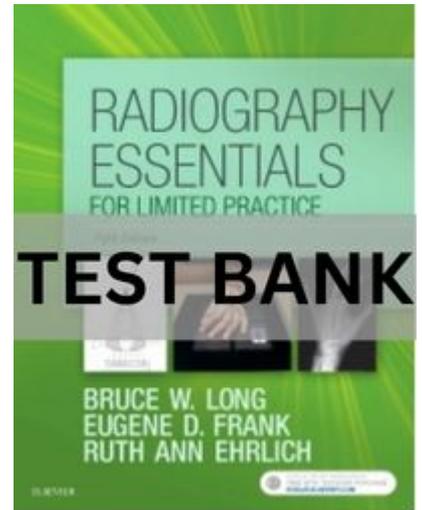


# Radiography Essentials for Limited Practice 5th Edition Test Bank

## Chapter 01: Role of the Limited X-ray Machine Operator

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### MULTIPLE CHOICE

1. X-rays were discovered in 1895 by:
  - a. Coolidge.
  - b. Crookes.
  - c. Roentgen.
  - d. Edison.

ANS: C

2. On what date were x-rays discovered?
  - a. November 8, 1895
  - b. November 10, 1923
  - c. October 31, 1859
  - d. October 31, 1895

ANS: A

3. What is the proper term for the “pictures” produced by x-rays?
  - a. Photographs
  - b. Radiographs
  - c. Views
  - d. X-images

ANS: B

4. The world’s oldest and largest radiologic science professional organization is the:
  - a. American Registry of Radiologic Technologists (ARRT).
  - b. Joint Review Committee on Education in Radiologic Technology (JRCERT).
  - c. Association of Educators in Imaging and Radiologic Sciences (AEIRS).
  - d. American Society of Radiologic Technologists (ASRT).

ANS: D

5. What organization establishes standards and provides certification examinations for radiologic technologists?

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- a. American Registry of Radiologic Technologists (ARRT)
- b. Joint Review Committee on Education in Radiologic Technology (JRCERT)
- c. Association of Educators in Imaging and Radiologic Sciences (AEIRS)
- d. American Society of Radiologic Technologists (ASRT)

ANS: A

6. What do the initials RT(R) stand for?
  - a. Registered technologist (radiography)
  - b. Radiography technology (registered)
  - c. Respiratory therapy (registered)
  - d. Registered technician (radiology)

ANS: A

7. Which national organization formally conducts accreditation of education programs in radiologic technology?
  - a. ARRT
  - b. ASRT
  - c. JRCERT
  - d. AERS

ANS: C

8. What is the imaging modality that provides real-time viewing of x-ray images in motion?
  - a. Computed tomography (CT)
  - b. Nuclear medicine (NM)
  - c. Positron emission tomography (PET)
  - d. Fluoroscopy

ANS: D

9. Which of the following imaging modalities does not use ionizing radiation to produce the image?
  - a. Computed tomography
  - b. Fluoroscopy
  - c. Mammography
  - d. Sonography

ANS: D

10. To determine the credentials or certification needed for you to practice limited radiography, you should contact:
  - a. the American Registry of Radiologic Technologists.
  - b. the U.S. Office of Health and Human Services.
  - c. your State Department of Health.
  - d. the National Council on Radiation Protection.

ANS: C

11. Limited radiography is called *limited* because the \_\_\_\_\_ limited.
  - a. scope of practice is
  - b. salaries are
  - c. opportunities are

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d. operators' competence is

ANS: A

12. Which of the following are within the scope of practice for a limited operator?

1. Use of contrast media
  2. Basic radiographic examination
  3. Explanation of procedure
- a. 1 and 2 only
  - b. 1 and 3 only
  - c. 2 and 3 only
  - d. 1, 2, and 3

ANS: C

13. The imaging modality that uses contrast media to image blood vessels is called:

- a. mammography.
- b. positron emission tomography.
- c. sonography.
- d. angiography.

ANS: D

14. Which of the following are possible consequences for practicing beyond the scope of practice of a limited operator?

1. Monetary fines
  2. Revocation of license/permit
  3. Imprisonment
- a. 1 and 2 only
  - b. 1 and 3 only
  - c. 2 and 3 only
  - d. 1, 2, and 3

ANS: D

15. The term *reciprocity* means that:

- a. special credentials are required.
- b. credentials issued in one state are recognized in another state.
- c. a license or permit has been applied for but has not been granted.
- d. there is freedom to practice without a license or permit.

ANS: B

16. Which of the following qualifies as practicing beyond the scope of a limited operator?

- a. Performing basic x-ray examinations
- b. Performing office duties
- c. Performing mammograms or CT exams in a private physician's office
- d. Assisting the physician in patient care

ANS: C

17. A term for a physician who has completed extensive additional training to qualify as an expert in a particular aspect of practice is a:

- a. doctor.

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- b. specialist.
- c. chiropractor.
- d. practitioner.

ANS: B

18. A physician specialist who interprets radiographs and performs special imaging procedures is called a:
- a. radiologist.
  - b. primary care physician.
  - c. chiropractic physician.
  - d. radiologic technologist.

ANS: A

19. X-ray examinations are performed on orders issued by:
- a. limited x-ray machine operators.
  - b. physicians.
  - c. radiologic technologists.
  - d. nurses.

ANS: B

20. Which of the following is considered a duty of a limited x-ray machine operator?
- a. Determine which examination should be performed.
  - b. Explain the procedure and the preparation to the patient.
  - c. Perform a pre-reading of the examination.
  - d. Choose additional projections depending on what is seen on the original images.

ANS: B

21. A medical doctor who diagnoses and treats disorders and diseases of the feet is called a(n):
- a. pathologist.
  - b. podiatrist.
  - c. radiologist.
  - d. internist.

ANS: B

22. Which organization began to accredit limited scope x-ray machine operator educational programs in 2012?
- a. AMA
  - b. ASRT
  - c. ARRT
  - d. JRCERT

ANS: D

23. The nationally accepted, and most often used, term for the limited x-ray operator is:
- a. basic x-ray operator.
  - b. practical x-ray operator.
  - c. limited radiologic technologist.
  - d. limited x-ray machine operator.

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ANS: D

24. The specialized area of radiology that uses x-rays to measure the bone mineral content and density of bones is:
- fluoroscopy.
  - computed tomography.
  - bone densitometry.
  - magnetic resonance imaging.

ANS: C

25. How many states use the ARRT Limited Scope examination for certifying limited operators in their state?
- 24
  - 30
  - 35
  - 40

ANS: C

### **Chapter 02: Introduction to Radiographic Equipment**

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#### **MULTIPLE CHOICE**

1. X-rays that leave the x-ray tube exit via the:
- tube housing.
  - tube port.
  - patient.
  - image receptor system.

ANS: B

2. The portion of the x-ray room that is protected from scatter radiation and is safe during exposures is called the:
- transformer.
  - grid cabinet.
  - control booth.
  - tube stand.

ANS: C

3. An invisible line in the center of the x-ray beam and perpendicular to the long axis of the x-ray tube is called the:
- radiation field.
  - primary x-ray beam.
  - x-ray tube.
  - central ray.

ANS: D

4. An IR that has been exposed to a body part but has not yet been processed has an unseen image called the:

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- a. latent image.
- b. visible image.
- c. remnant radiation.
- d. radiation field.

ANS: A

5. Tissues with greater density, such as bone, will absorb \_\_\_\_\_ radiation, as compared with less dense tissues, such as fat.
- a. more
  - b. less
  - c. equal amounts of
  - d. no

ANS: A

6. The absorption of x-rays by matter is called:
- a. scatter.
  - b. attenuation.
  - c. fog.
  - d. remnant radiation.

ANS: B

7. Which of the following statements regarding scatter radiation is true?
- a. Scatter radiation is another term for remnant radiation.
  - b. Scatter radiation is created within the tube with the primary beam.
  - c. Scatter radiation has less energy than the primary beam.
  - d. Scatter radiation travels in one direction and is easy to control.

ANS: C

8. The varying intensity of radiation that exits on the opposite side of the patient and reaches the IR is called \_\_\_\_\_ radiation.
- a. scatter
  - b. fog
  - c. remnant
  - d. primary

ANS: C

9. The image receptor (IR) usually consists of the:
- a. x-ray tube and the tube stand.
  - b. cassette and phosphor imaging plate.
  - c. control console and the transformer.
  - d. tube locks and the detent.

ANS: B

10. Which of the following are common computed radiography (CR) sizes used for general examinations?
- 1. 5 × 5 inches
  - 2. 10 × 12 inches
  - 3. 14 × 17 inches

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- a. 1 and 2 only
- b. 1 and 3 only
- c. 2 and 3 only
- d. 1, 2, and 3

ANS: C

11. The radiation that exits the x-ray tube and travels in-air to the patient is called:
- a. primary.
  - b. remnant.
  - c. scatter.
  - d. latent.

ANS: A

12. Computed radiography (CR) is sometimes called a(n) \_\_\_\_\_ system.
- a. “filmless”
  - b. “cassetteless”
  - c. “imageless”
  - d. “radiationless”

ANS: A

13. Where is the image originally obtained and stored in computed radiography (CR)?
- a. On a film
  - b. In a phosphor material
  - c. On a laser disk
  - d. In a microprocessor

ANS: B

14. Computed radiography (CR) eliminates the need for:
- a. proper positioning.
  - b. proper collimation.
  - c. cassettes.
  - d. darkrooms.

ANS: D

15. A mechanism that tends to stop a moving part in a specific location is called a:
- a. collimator.
  - b. control console.
  - c. transformer.
  - d. detent.

ANS: D

16. The boxlike device attached under the tube housing that allows the limited operator to vary the size of the radiation field is called a:
- a. collimator.
  - b. transformer.
  - c. detent.
  - d. tube port.

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ANS: A

17. A device to protect the IR from being fogged by scatter radiation is called a:
- collimator.
  - detent.
  - grid or Bucky.
  - cassette.

ANS: C

18. The principal source of scatter radiation is the:
- x-ray tube.
  - collimator.
  - patient.
  - control booth.

ANS: C

19. A tilting table will allow the head end to be lowered at least 15 degrees into the \_\_\_\_\_ position.
- Trendelenburg
  - Sims
  - Fowler
  - supine

ANS: A

20. The principal purpose of doing a “safety check” before making an exposure is to:
- ensure a quality radiographic image.
  - prevent radiation hazard to yourself.
  - protect the patient from unnecessary exposure.
  - prevent accidental exposure of co-workers.

ANS: D

21. The primary radiation that enters the patient and then leaves it, traveling in all directions, is called:
- primary.
  - scattered.
  - latent.
  - remnant.

ANS: B

22. Unwanted image exposure that is caused by scatter radiation is called:
- primary radiation.
  - remnant radiation.
  - attenuation.
  - scatter radiation fog.

ANS: D

23. After an x-ray is taken and the image is stored in the computed radiography plate, it has to be processed in the:

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- a. darkroom.
- b. PC computer.
- c. CR reader.
- d. microprocessor.

ANS: C

24. The most frequent adverse incident that can happen to a patient in the radiology department is:
- a. nausea.
  - b. falling.
  - c. back pain.
  - d. pinching fingers in the Bucky.

ANS: B

25. The squared area of the x-ray beam that strikes the patient and the table is called the:
- a. radiation field.
  - b. light field.
  - c. port.
  - d. image receptor.

ANS: A

26. One of the functions of the tube housing is to:
- a. warm the tube.
  - b. absorb scattered x-rays.
  - c. balance the tube.
  - d. allow adjustment of the central ray.

ANS: B

### **Chapter 03: Basic Mathematics for Limited Operators**

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#### **MULTIPLE CHOICE**

1. The lower or bottom number of a fraction is called a:
- a. portion.
  - b. numerator.
  - c. fractionator.
  - d. denominator.

ANS: D

2. What is a denominator?
- a. The bottom or lower number of a fraction
  - b. The upper or top number of a fraction
  - c. The number divided into in a division problem
  - d. The answer to a division problem

ANS: A

3. The upper or top number of a fraction is called a:

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- a. portion.
- b. denominator.
- c. fractionator.
- d. numerator.

ANS: D

4. What is a numerator?
- a. The answer to a multiplication problem
  - b. The answer to a division problem
  - c. The bottom or lower number of a fraction
  - d. The upper or top number of a fraction

ANS: D

5. A fraction in which the top number is larger than the bottom number is called a(n) \_\_\_\_\_ fraction.
- a. proper
  - b. unnatural
  - c. improper
  - d. unconverted

ANS: C

6. What is required to add or subtract fractions?
- a. Common numerator
  - b. Common quotient
  - c. Common dividend
  - d. Common denominator

ANS: D

7. In a continuing education course, you learn that approximately 85% of limited operators who have practiced for 5 or more years suffer from low-back pain. What does this number mean?
- a. Of the total number of limited operators, 85 suffer from low-back pain.
  - b. Of every 100 limited operators, 85 suffer from low-back pain.
  - c. Every 5 years, 85 limited operators suffer from low-back pain.
  - d. Being a limited operator is very unhealthy.

ANS: B

8. Which of the following is an exponential expression of 100,000 as a power of 10?
- a.  $10^3$
  - b.  $100^2$
  - c.  $10^5$
  - d.  $10^6$

ANS: C

9. What is the value of  $2^8$ ?
- a. 28
  - b. 16
  - c. 256
  - d. 280