MULTIPLE CHOICE

1. The primary controlling factor of radiographic contrast is:
   a. mA
   b. time
   c. kVp
   d. SID

   ANS: C    PTS: 1    DIF: Level: Medium
   REF: Vol. 1, p. 4    OBJ: Category: General

2. The ability to visualize very small structures on a radiograph is termed:
   a. contrast
   b. density
   c. distortion
   d. recorded detail

   ANS: D    PTS: 1    DIF: Level: Hard
   REF: Vol. 1, p. 4    OBJ: Category: General

3. Radiographs of the hands, wrist, feet, and toes are routinely displayed on the illuminator with the digits:
   a. positioned towards the ceiling
   b. positioned towards the floor
   c. horizontal and pointed to the left
   d. horizontal and pointed to the right

   ANS: A    PTS: 1    DIF: Level: Medium
   REF: Vol. 1, p. 10    OBJ: Category: General

4. The total destruction of microorganisms is accomplished through the use of:
   a. disinfectants
   b. sterilization
   c. germicides
   d. antiseptics

   ANS: B    PTS: 1    DIF: Level: Hard
   REF: Vol. 1, p. 16    OBJ: Category: General

5. In film/screen radiography, which term is defined as the degree of blackening?
   a. optical density
   b. contrast
   c. recorded detail
   d. distortion

   ANS: A    PTS: 1    DIF: Level: Medium
   REF: Vol. 1, p. 4    OBJ: Category: General

   TOP: Exam: None
6. The equivalent term for optical density in digital imaging is:
   a. contrast
   b. noise
   c. brightness
   d. window level
   ANS: C  PTS: 1  DIF: Level: Medium
   REF: Vol. 1, p. 4  OBJ: Category: General
   TOP: Exam: None

7. The controlling factors for magnification are:
   a. density and contrast
   b. object-to-image receptor distance (OID) and source-to-image receptor distance (SID)
   c. central ray angle and central ray alignment
   d. part/image receptor alignment and SID
   ANS: B  PTS: 1  DIF: Level: Medium
   REF: Vol. 1, p. 6  OBJ: Category: General
   TOP: Exam: None

8. Involuntary motion can be caused by which of the following?
   (1) peristalsis
   (2) spasm
   (3) breathing
   a. 1 and 2
   b. 1 and 3
   c. 2 and 3
   d. 1, 2, and 3
   ANS: A  PTS: 1  DIF: Level: Medium
   REF: Vol. 1, p. 18  OBJ: Category: Positioning
   TOP: Exam: None

9. Voluntary motion resulting from lack of control can be caused by:
   (1) fear
   (2) age (child)
   (3) tremors
   a. 1 and 2
   b. 1 and 3
   c. 2 and 3
   d. 1, 2, and 3
   ANS: A  PTS: 1  DIF: Level: Hard
   REF: Vol. 1, p. 19  OBJ: Category: Positioning
   TOP: Exam: 2

10. Radiographers can control voluntary motion by:
    a. using a high kVp
    b. increasing the length of exposure time
    c. performing the examination in the recumbent position
    d. giving clear instruction to the patient
    ANS: D  PTS: 1  DIF: Level: Medium
    REF: Vol. 1, p. 19  OBJ: Category: Positioning
    TOP: Exam: 1
11. A decrease in technical factors may be required for a patient who has:
   a. edema
   b. emphysema
   c. atelectasis
   d. advanced carcinoma

   ANS:  B      PTS:  1       DIF:  Level: Medium
   REF:  Vol. 1, p. 41  OBJ:  Category: Positioning  TOP:  Exam: 1

12. An increase in technical factors may be required to penetrate a part on a patient who has:
   a. atrophy
   b. emphysema
   c. pleural effusion
   d. degenerative arthritis

   ANS:  C       PTS:  1       DIF:  Level: Hard  REF:  Vol. 1, p. 41
   OBJ:  Category: Positioning  TOP:  Exam: 2

13. All radiographs must be identified with which of the following?
   (1) radiographer’s name
   (2) patient’s name or ID number
   (3) right or left marker

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

   ANS:  C       PTS:  1       DIF:  Level: Medium
   REF:  Vol. 1, p. 27  OBJ:  Category: Positioning  TOP:  Exam: 1

14. The metric conversion of 40 inches is:
   a. 16 cm
   b. 18 cm
   c. 90 cm
   d. 102 cm

   ANS:  D       PTS:  1       DIF:  Level: Medium
   REF:  Vol. 1, p. 30  OBJ:  Category: General  TOP:  Exam: None

15. The source of radiation in an x-ray tube (the anode) shall not be closer than:
   a. 12 inches from the patient
   b. 15 inches from the patient
   c. 12 inches from the tabletop
   d. 15 inches from the tabletop

   ANS:  A       PTS:  1       DIF:  Level: Hard  REF:  Vol. 1, p. 31
   OBJ:  Category: General  TOP:  Exam: 2

16. Collimation of the x-ray beam prompts which of the following:
   (1) an increase in radiographic contrast
2. reduction of scatter and secondary radiation
3. reduction in radiation to the patient

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

ANS: D  PTS: 1  DIF: Level: Medium
REF: Vol. 1, p. 32  OBJ: Category: Positioning  TOP: Exam: 1

17. Federal guidelines require gonad shielding for which of the following:
   1. when the gonads lie in the primary beam
   2. if the clinical objective of the exam is not compromised
   3. when the patient has reasonable reproductive potential
   a. 1 and 2
   b. 1 and 3
   c. 2 and 3
   d. 1, 2, and 3

ANS: D  PTS: 1  DIF: Level: Medium
REF: Vol. 1, p. 32  OBJ: Category: Positioning  TOP: Exam: 1

18. Which of the following devices are considered IRs?
   1. television monitor
   2. computed radiography image plate
   3. cassette with film
   a. 1 and 2
   b. 1 and 3
   c. 2 and 3
   d. 1, 2, and 3

ANS: C  PTS: 1  DIF: Level: Medium
REF: Vol. 1, p. 3  OBJ: Category: General  TOP: Exam: 3

19. Recorded detail is primarily controlled by:
   1. mA
   2. screens
   3. focal spot size
   a. 1 and 2
   b. 1 and 3
   c. 2 and 3
   d. 1, 2, and 3

ANS: C  PTS: 1  DIF: Level: Hard  REF: Vol. 1, p. 4
OBJ: Category: General  TOP: Exam: 3

20. If a bone is projected longer or shorter than it actually is on the radiographic image, it is
    known as:
    a. angulation
    b. distortion
    c. geometry
21. Which of the following must be cleaned after every patient?
   a. collimator
   b. tabletop
   c. gonad shields
   d. x-ray tube

22. Which of the following is true when using computed radiography?
   (1) the IR could be opened for a few minutes without causing the stored image to be destroyed
   (2) collimation of the x-ray beam is not critical
   (3) final contrast and density adjustments of the radiographic image are done using a computer
   a. 1 and 2
   b. 1 and 3
   c. 2 and 3
   d. 1, 2, and 3

23. The phosphors in computed radiography IRs are very sensitive to:
   a. kVp
   b. dust
   c. collimation
   d. scatter radiation

24. Radiographers who are educated as "radiologist extenders" are known as:
   (1) physician assistants (PAs)
   (2) radiologist assistants (RAs)
   (3) radiology practitioner assistants (RPAs)
   a. 1 and 2
   b. 2 and 3
   c. 2 and 3
   d. 1, 2, and 3

25. Blood and body fluid recommendations are issued by the:
   a. CDC
b. ASRT  
c. ARRT  
d. JCAHO  

ANS: D  
PTS: 1  
DIF: Level: Hard  
REF: Vol. 1, p. 23  
OBJ: Category: General  
TOP: Exam: 1  

26. Each radiology department must write age-specific competencies to meet the standards of the:  
a. CDC  
b. ASRT  
c. ARRT  
d. JCAHO  

ANS: A  
PTS: 1  
DIF: Level: Medium  
REF: Vol. 1, p. 16  
OBJ: Category: General  
TOP: Exam: 1  

27. Gonad shielding is required when the gonads lie within ____ cm of the primary x-ray field.  
a. 3  
b. 5  
c. 6  
d. 8  

ANS: B  
PTS: 1  
DIF: Level: Medium  
REF: Vol. 1, p. 33  
OBJ: Category: General  
TOP: Exam: 1  

28. Which of the following radiographic examinations would give a male patient the highest gonad dose?  
a. limb  
b. skull  
c. pelvis  
d. lumbar spine  

ANS: C  
PTS: 1  
DIF: Level: Hard  
REF: Vol. 1, p. 35  
OBJ: Category: General  
TOP: Exam: 1  

29. Which of the following radiographic examinations would give a female patient the highest gonad dose?  
a. limb  
b. skull  
c. pelvis  
d. lumbar spine  

ANS: D  
PTS: 1  
DIF: Level: Hard  
REF: Vol. 1, p. 35  
OBJ: Category: General  
TOP: Exam: 1  

30. Which of the following is affected when imaging patients who are obese?  
(1) image quality  
(2) ability to transfer safely  
(3) ability to find positioning landmarks  
a. 1 and 2 only  

b. 1 and 3 only

c. 2 and 3 only

d. 1, 2, and 3

ANS: D  PTS: 1

OBJ: Category: General

DIF: Level: Hard  REF: Vol. 1, p. 46

TOP: Exam: None