

Specialized Topics in Areas of Radiologic Sciences
P.O. Box 2931 Toledo, Ohio 43606
Phone: 419-471-1973
Website: www.xrayhomestudies.com

Unit 36

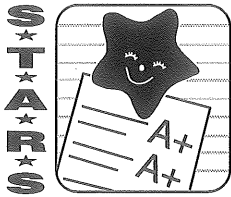
Radiographic Imaging & Exposure

by

Terri L. Fauber

Third Edition

Prepared by: Carolyn J. Frigmanski, M.A., B.S.R.T. ®
Founder, S.T.A.R.S.



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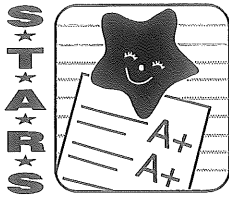
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Sincerely,

Carolyn J. Frigmanski, M.A., B.S.R.T. ®, Founder



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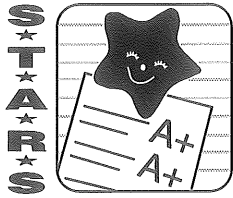
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Thank you very much.



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The Ohio Dept. of Health (ODH) requires a **minimum of 12 continuing education credits (ceus) to be completed every 2 years (your biennium) BEFORE your license expires.** You may do more than 12 ceus, but not less than 12 ceus, if you so choose. Ceus in excess of 12 cannot be carried over to the next biennium.

You will receive a hard copy renewal notice by mail from the ODH 60 days **BEFORE** your license expires. **It is your responsibility to amend your personal information to the ODH whenever you change your name, address or place of employment as soon as possible by using the ODH website or contacting the ODH by telephone at 614 752-4319 for assistance. Failure to receive an ODH notice is not an acceptable reason for failing to renew on time.** You can add completion of clinical modules to your GXMO license on the ODH web site.

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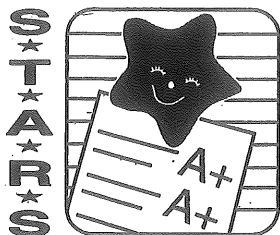
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You may also want to check the ODH web site periodically for changes that may have occurred during your biennium and to share this information with your co-workers and/or administrative staff members.

The ODH website is: <http://www.odh.ohio.gov/odhPrograms/rp/rlic/ristatus.aspx>

Email is: BRadiation@odh.ohio.gov

Thank you very much.



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Unit 36

Title: Radiographic Imaging & Exposure by Terri L. Fauber

Please complete the answer sheet at the conclusion of this post test and return to the S.T.A.R.S. office.

Chapter 1

1. The crystals Dr. Wilhelm Conrad Roentgen used to produce the first x-ray were
 - a. calcium tungstate
 - b. barium platinocyanide
 - c. lanthanum oxybromide
 - d. gadolinium oxysulfide
2. The instantaneous production of light resulting from some type of energy is called
 - a. luminescence
 - b. phosphorescence
 - c. fluorescence
 - d. scintillation
3. The world's first radiograph was a hand image of
 - a. Dr. Wilhelm Conrad Roentgen
 - b. Thomas Edison
 - c. Marie Curie
 - d. Anna Bertha Roentgen
4. The state that attempted to enact legislation to ban x-ray producing devices in opera glasses was
 - a. New Jersey
 - b. Washington, DC
 - c. New York
 - d. New Mexico
5. The first indications of the damaging biologic effects from x-rays were
 - a. tumors & sterility
 - b. redness & burns of the skin
 - c. mental challenges & fatigue
 - d. soft tissue tumors and anemia
6. The most energetic electromagnetic radiation on the electromagnetic spectrum is
 - a. cosmic radiation
 - b. infrared radiation
 - c. ultraviolet
 - d. gamma rays
7. Constant velocity is
 - a. the speed of sound
 - b. the frequency of electricity
 - c. 186,000 miles per second
 - d. the cycles of all electromagnetic energy
8. The maximum energy of a photon is expressed as
 - a. the speed of sound
 - b. wavelength
 - c. the speed of light
 - d. kilovoltage peak (kVp)

9. X-rays can cause chemical and biological changes in living tissue because of the process of

- a. ionization
- b. reduction
- c. scatter
- d. oxidation

Chapter 2

10. The coiled tungsten wire that provides electrons during x-ray production is called the

- a. cathode
- b. filament
- c. anode
- d. focusing cup

11. The revolutions per minute of rotating anodes is

- a. 1,000 to 2,000
- b. 500 to 2,500
- c. 3,000 to 10,000
- d. 300 to 1,000

12. Tungsten is used in the target because it possesses a

- a. high atomic number
- b. low atomic number
- c. low heat storage capacity
- d. limited capacity to produce scatter

13. The physical area of the target that is bombarded by electrons during x-ray production is

- a. focal track
- b. focusing cup
- c. stator
- d. focal spot

14. The radiation that results when projectile electrons interact with K-shell electrons is called

- a. characteristic
- b. x-ray emission
- c. bremsstrahlung
- d. Compton effect

15. The portion of the x-ray circuit that operates on 3 to 5 amps and about 10 volts is called the

- a. high voltage circuit
- b. filament circuit
- c. low voltage circuit
- d. rectification system

16. Electron flow from cathode to anode in the x-ray tube is called

- a. actual focal spot
- b. high voltage flow
- c. effective focal spot
- d. tube current

17. Beam penetrability increases as

- a. mA increases
- b. filter thickness increases
- c. kVp increases
- d. kVp decreases

18. The exposure factor that produces or controls the number of x-rays is

- a. distance
- b. mA
- c. kVp
- d. distance

19. The anode angle typically ranges from

- a. 10 to 15 degrees
- b. 6 to 18 degrees
- c. 5 to 15 degrees
- d. 6 to 20 degrees

20. Thicker anatomic body parts should be positioned at the

- a. cathode end of the x-ray tube
- b. head of the x-ray table
- c. anode end of the x-ray tube
- d. transverse axis of a grid

21. Total filtration for x-ray tubes operating above 70 kVp in the United States is

- a. 1.5 mm of aluminum
- b. 2 mm of aluminum or its equivalent
- c. 2.5 mm of aluminum or its equivalent
- d. 3.5 mm of aluminum

22. Failure of the rotor to rotate the anode will cause

- a. pitting
- b. melting of the focal tract
- c. uneven x-ray beam distribution
- d. damage to the cathode structure

Chapter 3

23. The reduction in energy of the primary x-ray beam as it passes through anatomic tissue is called

- a. attenuation
- b. differential absorption
- c. absorption
- d. braking radiation

24. The process of creating photoelectrons occurs with

- a. Compton effect
- b. scatter
- c. exit radiation
- d. photoelectric effect

25. The combination of transmitted and scattered radiation is called

- a. secondary radiation
- b. absorbed radiation
- c. primary radiation
- d. exit radiation

26. The imaging equipment involving the interaction of radiation with an input phosphor is called

- a. conventional radiography
- b. image intensification
- c. digital radiography
- d. computed radiography

27. A specialized image receptor that can produce a computerized radiographic image is utilized in

- a. fluoroscopy
- b. image intensification
- c. xerography
- d. digital radiography

Chapter 4

28. The visibility of recorded detail is also referred to as

- a. geometric properties
- b. sensitometric properties
- c. photographic properties
- d. densitometric properties

29. The controlling factors for radiographic density are
- a. mA & time
 - b. kVp & filtration
 - c. time & distance
 - d. kVp & distance
30. If repeat radiographs are necessary because of a minimal density error, the mAs should be adjusted
- a. by a factor of 3
 - b. by a factor of 2
 - c. by a factor of 1 and $\frac{1}{2}$
 - d. by a factor of 4
31. The percentage of kVp that must be used to maintain density when mAs is doubled is
- a. 20
 - b. 10
 - c. 30
 - d. 15
32. The formula to use to maintain consistent density when the source-to-image distance is changed is
- a. density maintenance formula
 - b. reciprocity law
 - c. inverse square law formula
 - d. electrostatic laws
33. When switching from non-grid to a 12:1 ratio grid, mAs needs to be increased by a factor of
- a. 2
 - b. 4
 - c. 5
 - d. 3
34. Smaller field size/increased collimation will affect density in what way?
- a. increase radiographic density
 - b. decrease radiographic density
 - c. increase scatter
 - d. decrease contrast
35. mAs should be doubled when part thickness increases by
- a. 2 cm
 - b. 10 cm
 - c. 4 cm
 - d. 6 cm
36. To produce a more uniform density on varying body thicknesses, the radiographer can use
- a. compensatory filters
 - b. higher kVp
 - c. the reciprocity law
 - d. cathode heel effect
37. A radiograph possessing few densities with great differences among them is described as
- a. long- scale contrast
 - b. average contrast
 - c. low contrast
 - d. short-scale contrast
38. The controlling factor of contrast is
- a. mA
 - b. time
 - c. kVp
 - d. distance
39. Short-scale contrast can be created by utilizing
- a. low kVp
 - b. a low grid ratio
 - c. high mA
 - d. a larger collimator size

40. The production of scatter radiation increases whenever

- a. kVp decreases
- b. anatomic tissue increases
- c. part thickness decreases
- d. larger focal spots are used

41. The type of contrast agent that produces less radiographic density than the adjacent tissue is

- a. negative
- b. barium sulfate
- c. air
- d. positive

42. The image receptor most sensitive to scatter radiation is used in

- a. a film-screen system
- b. image intensification
- c. digital imaging
- d. fluoroscopy

43. Adult mAs exposure factors can be adjusted for pediatric exams under age 5 by utilizing

- a. 25% of the adult technique
- b. 10% of the adult technique
- c. 50% of the adult technique
- d. 35% of the adult technique

44. Dry plaster casts require an increase in mAs of

- a. 3x
- b. 2x
- c. 4 x
- d. 1 1/2x

45. The disease considered to be a destructive condition is

- a. pleural effusion
- b. cirrhosis
- c. congestive heart failure
- d. emphysema

46. Soft tissue technique would be necessary to use for patients experiencing

- a. croup
- b. tuberculosis
- c. subcutaneous emphysema
- d. hemorrhage

Chapter 5

47. The distinctness or sharpness of structural lines that make up the radiographic image is called

- a. geometric properties
- b. photographic properties
- c. recorded detail
- d. resolution

48. The average focal spot dimensions are in which of the following ranges?

- a. 1 to 2 cm
- b. 0.5 to 1.2 mm
- c. 2 to 3 mm
- d. 1 to 3 cm

49. Increasing SID and decreasing OID will result in _____ in an image.

- a. increasing the amount of sharpness
- b. less structural detail
- c. reducing patient doses
- d. decreasing the amount of unsharpness

50. Increasing the speed of an intensifying film-screen system will

- a. decrease recorded detail
- b. increase patient doses
- c. increase recorded detail
- d. improve quality control

51. The visual acuity of the human eye can discern approximately

- a. 2 line pairs per millimeter
- b. 3 line pairs per millimeter
- c. 5 line pairs per millimeter
- d. 4 line pairs per millimeter

52. The most detrimental factor to maximizing recorded detail is

- a. incorrect processing
- b. incorrect distance selection
- c. improper grid selection
- d. patient motion

53. To produce a magnified image, the radiographer must

- a. decrease SID
- b. increase OID
- c. use screens
- d. use the anode heel effect

54. When utilizing a 72" SID and a 60" SOD, the magnification factor is

- a. 2
- b. 1.2
- c. 1.6
- d. 2.5

55. To minimize shape distortion, the radiographer must keep the tube, film and patient

- a. perpendicular to each other
- b. horizontal to the table
- c. as close as possible
- d. properly aligned

56. Increasing the angle on the central ray will create a

- a. decrease in density
- b. increase detail
- c. increase in density
- d. decrease distortion

Chapter 6

57. Increased scatter will be produced whenever

- a. patient thickness is decreased
- b. collimation is small
- c. tissue volume increases
- d. a destructive disease is present in a patient

58. As beam restriction or collimation increases, the patient dose will

- a. increase
- b. decrease by at least 50%
- c. will not be affected
- d. decrease

59. Significant collimation requires an increase in mAs of

- a. 20 to 40%
- b. 30 to 50%
- c. 10 to 15%
- d. 60% or more

60. The beam-restricting device that utilizes a pair of adjustable lead shutters is a

- a. collimator
- b. cylinder cone
- c. diaphragm
- d. flared extension cone

61. Another term for an automatic collimator is a/an _____ device.
- a. adjustable
 - b. electronic
 - c. positive beam-limiting
 - d. self-regulating
62. A grid should be utilized whenever an anatomic body part measures
- a. 15 cm or more
 - b. 10 cm or more
 - c. 5 to 9 cm
 - d. 8 to 9 cm
63. The grid type that has a convergence point is the
- a. parallel
 - b. cross-hatched
 - c. wafer
 - d. linear focused
64. The grid conversion factor when 100 mAs is used with a grid and 5 mAs is used non-grid is
- a. 10
 - b. 15
 - c. 500
 - d. 20
65. Misalignment of the grid in relationship to the primary x-ray beam results in
- a. grid cutoff
 - b. increased contrast improvement
 - c. increased density
 - d. reduced patient dose
66. The grid ratios typically used in diagnostic radiography are
- a. 6:1 & 8:1
 - b. 5:1 & 10:1
 - c. 8:1 & 12:1
 - d. 8:1 & 16:1
67. Digital imaging systems, when compared to film-screen imaging systems, are more responsive to
- a. high energy photons
 - b. very low energy photons
 - c. scattered photons
 - d. photoelectrons

Chapter 7

68. The most common film-screen image receptor utilized today is
- a. digital
 - b. single-emulsion film
 - c. low-dose film
 - d. double-emulsion film
69. Flat silver halide crystals are called
- a. T-grain
 - b. crystalline matrix
 - c. horizontal
 - d. conventional
70. The percentage of silver bromide in film emulsions used by manufacturers today is
- a. 75 to 90
 - b. 50 to 75
 - c. 90 to 99
 - d. 60 to 80
71. The layer of film construction that actually creates the image is called the
- a. supercoat
 - b. emulsion
 - c. base
 - d. photographic layer

72. The focal point for the development of the latent image centers is found in the
- a. T-grain crystal matrix
 - b. silver iodide compound
 - c. silver bromide crystal lattice
 - d. sensitivity specks
73. The term used to describe an image being recorded on a film by reflected light is
- a. halation
 - b. image intensification
 - c. anti-crossover
 - d. photo-reception
74. A film-screen system that is not spectrally matched will produce densities that are considered
- a. optimal
 - b. diagnostic
 - c. suboptimal
 - d. extremely desirable
75. The effect of crossover creates images with
- a. maximized detail
 - b. a loss of recorded detail
 - c. less distortion
 - d. better contrast scales
76. The emission of light from the screens when stimulated by x-rays is called
- a. photo-emission
 - b. fluorescence
 - c. phosphorescence
 - d. luminescence
77. Lanthanum oxybromide is a crystal in the category of
- a. blue emitting rare earth
 - b. conventional blue emitting
 - c. green emitting rare earth
 - d. ultraviolet emitting rare earth
78. The intensification factor when using 5 mAs with screens and 40 mAs without screens is
- a. 10
 - b. 20
 - c. 8
 - d. 0.8
79. A screen is considered fast when its relative speed is at least
- a. 200 or more
 - b. 400 or more
 - c. 150 to 300
 - d. 80 to 200
80. A light-absorbing dye added to the phosphor layer will
- a. create fog on the resultant image
 - b. improve the scale of contrast
 - c. increase film speed
 - d. improve recorded detail
81. A synonym for image noise is
- a. quantum mottle
 - b. photon interaction
 - c. screen crossover
 - d. speed conversion
82. The quality control device used to check film-screen contact is called a
- a. spinning top
 - b. penetrometer
 - c. wire mesh test tool
 - d. ionization chamber

83. The function of lead foil in the back of the cassette is to

- a. prevent crossover
- b. absorb back scatter
- c. prevent phosphorescence
- d. absorb light photons

84. A photostimulable phosphor is used in

- a. digital radiography
- b. xerography
- c. computed tomography
- d. computed radiography (CR)

85. Barium fluorohalide crystals coated with europium are found in

- a. rare earth screens
- b. input phosphors
- c. imaging plates
- d. super fast screen speeds

86. To prevent fading, computed radiography (CR) plates should be processed within

- a. 1 hour of exposure
- b. 30 minutes of exposure
- c. 2 hours of exposure
- d. 3 hours of exposure

87. X-rays are absorbed by a layer of cesium iodide in

- a. a direct conversion system
- b. an indirect conversion system
- c. all computed radiography systems
- d. all fluoroscopy systems

Chapter 8

88. The term used to describe an invisible image on exposed film is called

- a. manifest
- b. photosensitivity
- c. crossover
- d. latent

89. The chemical that is fast -reducing and produces gray densities on film is

- a. hydroquinone
- b. sodium sulfite
- c. phenidone
- d. potassium bromide

90. The chemical added to the processing solutions to accommodate the roller transport system is

- a. glutaraldehyde
- b. sodium sulfite
- c. hydroquinone
- d. ammonium thiosulfate

91. The ammonia odor emanating from processing solutions is attributed to the

- a. preservative
- b. fixing agent
- c. acidifier
- d. hardener

92. Staining or fading of the permanent or archival image results from

- a. improper washing
- b. improper development
- c. contamination of the solutions
- d. high humidity in the file room

93. The chemical that actually stops development is

- a. sodium sulfite
- b. chrome alum
- c. potassium bromide
- d. acetic acid

94. To enhance archival quality, finished radiographs should maintain

- a. 20 to 25% water
- b. 0% water
- c. 10 to 15% water
- d. 5 to 8% water

95. The roller assembly that moves film from one tank to another is called the

- a. turnaround
- b. crossover
- c. deep or planetary
- d. entrance

96. The reduction of chemical strength as a result of exposure to air is called

- a. aerial oxidation
- b. exhaustion
- c. aerial reduction
- d. evaporation

97. Replenishment pumps are activated by the

- a. feed tray
- b. re-circulation pumps
- c. entrance rollers
- d. micro-switch

98. Temperature control in newer automatic processors is provided by the

- a. mixing valves
- b. external thermostat
- c. immersion heater
- d. dryer assembly

99. A brown or thiosulfate stain results from

- a. inadequate washing
- b. exhausted developer
- c. contamination of solutions
- d. inadequate fixation

100. One of the causes of dichroic fog is

- a. improper washing
- b. under-replenishment of solutions
- c. over-replenishment of solutions
- d. insufficient hardener

101. Unused film should be stored in a relative humidity range of

- a. 20 to 30%
- b. 40 to 60%
- c. 50 to 70%
- d. 0 to 15%

102. Archival storage temperatures in Fahrenheit degrees for radiographic film ranges between

- a. 50 to 60
- b. 60 to 70
- c. 60 to 80
- d. 55 to 75

103. A commonly used filter in darkrooms storing blue-sensitive film is called

- a. Kodak Wratten 6B
- b. Kodak Wratten 15 watt
- c. Kodak GBX
- d. Kodak GB

104. Quality control for automatic processors requires replenishment rate checks every

- a. day
- b. week
- c. quarter
- d. year

105. Quality control for automatic processors requires developer and fixer pH checks every

- a. day
- b. week
- c. quarter
- d. year

106. The most efficient method of silver recovery is

- a. metallic replacement
- b. silver extraction
- c. silver filtration
- d. electrolytic

107. Bending or kinking of film will create an artifact identifiable as

- a. an abrasion
- b. a half-moon mark
- c. an area of fog
- d. a minus density

108. Foreign objects are visualized on radiographic film as a

- a. positive-density artifact
- b. radiolucent artifact
- c. minus-density artifact
- d. an area of fog

Chapter 9

109. A device used to produce consistent step-wedge densities by eliminating the x-ray unit is a

- a. sensitometer
- b. penetrometer
- c. densitometer
- d. wire mesh

110. For diagnostic ability, physicians need to read optical densities in the ranges of

- a. 1.0 to 2.5
- b. 1.5 to 3.5
- c. 1.5 to 3
- d. 0.25 to 2.5

111. A doubling or halving change occurs in density when the log relative exposure changes by

- a. 1.0
- b. 0.3
- c. 1.5
- d. 2.0 or more

112. The region in which a change in exposure intensity no longer affects optical density is called

- a. the shoulder
- b. D_{max}
- c. straight-line
- d. toe

113. When comparing two film products, the lower speed exposure point will indicate the film with

- a. slower speed
- b. better resolution
- c. faster speed
- d. improved contrast scales

114. When comparing two film products, the steeper the slope will indicate the film with

- a. higher contrast
- b. better resolution
- c. slower speed
- d. less vulnerability to fogging

115. Narrow latitude film products possess

- a. lower contrast scales
- b. less recorded detail
- c. higher densities
- d. higher contrast scales

116. To achieve maximum contrast, optical densities on a sensitometric curve must lie within

- a. the shoulder region
- b. the straight-line region
- c. the toe region
- d. the speed point region

117. The term used to describe the shades of gray in a digital image is called the

- a. average gradient
- b. shoulder range
- c. dynamic range
- d. contrast enhancement scale

Chapter 10

118. Baseline kVp should have 2 kVp added for every increase of patient tissue of

- a. 1 cm
- b. 3 cm
- c. 2 cm
- d. 4 cm

119. Variable kVp/Fixed mAs technique charts are recommended for use with

- a. abdomen studies
- b. chest radiography
- c. small extremities
- d. gastrointestinal tract examinations

120. The kVp value that is high enough to ensure penetration of the part is called

- a. recommended
- b. optimal
- c. diagnostic
- d. useful

121. For exposure technique charts to be effective, radiographic equipment must be working

- a. within 10-15% of the ideal calibration
- b. at its maximum
- c. within 5-10% of the calibration parameters
- d. within normal limits

122. Development and utilization of exposure technique charts serve to

- a. provide consistent quality radiographs
- b. accommodate all pathologies
- c. accommodate all patient sizes
- d. provide no personnel errors

Chapter 11

123. The electronic device that converts visible light energy into electrical energy is

- a. an ionization chamber
- b. AEC detector
- c. photomultiplier tube (PM)
- d. input phosphor

124. Most of today's automatic exposure systems (AEC) utilize

- a. 10 photomultiplier tubes
- b. ionization chambers
- c. one AEC chamber
- d. excessive kVp to penetrate all parts

125. A critical factor for radiographers to remember when using an AEC system is to

- a. properly center the part
- b. disregard collimation
- c. disregard using gonadal shielding
- d. select all chambers for all exams

126. Another critical factor for radiographers to remember when using an AEC system is to

- a. adjust time for disease processes
- b. always use high kVp
- c. disregard SID
- d. select the correct chamber

127. Density selections with AEC systems can be adjusted in increments of

- a. 10 to 20%
- b. 25 to 50%
- c. 30 to 50%
- d. 10 kVp

128. The device that prevents the x-ray tube from reaching or exceeding its heat loading capacity is

- a. the back up timer
- b. the ionization chamber
- c. the rheostat
- d. the rectifiers

129. Radiographers should note the mAs readout display so that they can

- a. perform all quality control tests
- b. dismiss written documentation
- c. make adjustments for manual techniques
- d. tell the patient the dose

130. A system using a preprogrammed set of exposure factors with visual anatomic buttons is called

- a. anatomic AEC system
- b. anatomic adjustment system
- c. preprogrammed AEC system
- d. anatomic programming

131. The sensitivity of CR systems is approximately equivalent to a film-screen speed system of

- a. 300
- b. 200
- c. 400
- d. 100

Chapter 12

132. Digital images are constructed from

- a. numerical data
- b. electronic charges
- c. megabytes
- d. x-rays

133. The process of manipulating the image quality such as contrast, subtraction, etc. is called

- a. pixel processing
- b. matrix manipulation
- c. postprocessing image enhancement
- d. pixel preprocessing

134. The creation of metallic silver in radiographic images would correlate to

- a. pixel processing
- b. matrix manipulation
- c. postprocessing image enhancement
- d. pixel formation

135. Increasing the matrix size and pixel number will

- a. improve image quality
- b. minimize image manipulation ability
- c. distract from image quality
- d. decrease image quality

136. The analog image is converted into a digital image for computer processing by the

- a. charged-coupled device
- b. reader unit
- c. imaging plate
- d. processing unit

137. One of the disadvantages of computed radiography (CR) in comparison to film-screen systems is

- a. the potential for increased patient exposure
- b. lack of image sizes
- c. inability to see fine recorded detail
- d. inability to use with contrast agents

138. The digital composite of the varying x-ray intensities existing in the patient is identified by the

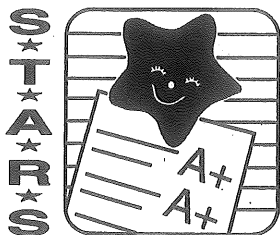
- a. analog-to-digital converter
- b. charged-coupled device
- c. scintillating device
- d. image matrix

139. The greatest detective quantum efficiency (DQE) is found in

- a. film-screen systems
- b. computed tomography
- c. flat panel direct capture systems
- d. automatic exposure systems

140. A postprocessing technique that improves the visibility of small, high contrast structures is called

- a. subtraction
- b. edge enhancement
- c. contrast enhancement
- d. black/white reversal



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**Please place your lettered selection for each question in the respective box and return
ONLY this post test sheet to S.T.A.R.S.**

1.	11.	21.	31.	41.	51.	61.
2.	12.	22.	32.	42.	52.	62.
3.	13.	23.	33.	43.	53.	63.
4.	14.	24.	34.	44.	54.	64.
5.	15.	25.	35.	45.	55.	65.
6.	16.	26.	36.	46.	56.	66.
7.	17.	27.	37.	47.	57.	67.
8.	18.	28.	38.	48.	58.	68.
9.	19.	29.	39.	49.	59.	69.
10.	20.	30.	40.	50.	60.	70.

Please continue on the reverse side.

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71.	81.	91.	101.	111.	121.	131.
72.	82.	92.	102.	112.	122.	132.
73.	83.	93.	103.	113.	123.	133.
74.	84.	94.	104.	114.	124.	134.
75.	85.	95.	105.	115.	125.	135.
76.	86.	96.	106.	116.	126.	136.
77.	87.	97.	107.	117.	127.	137.
78.	88.	98.	108.	118.	128.	138.
79.	89.	99.	109.	119.	129.	139.
80.	90.	100.	110.	120.	130.	140.