Integrating Computers into Imaging: Digital Radiography (DR)

Examination

1. Diagnostic imaging departments today are ______ only to the space program in utilizing digital information data.
   a. second
   b. third
   c. fourth
   d. fifth
   e. sixth

2. Radiation absorbance detectors that absorb x-ray energy and convert the energy to light energy are usually designed on a(n)
   a. algorithm device
   b. charge-coupled device
   c. matrix tube
   d. thin-film transistor
   e. photosensitive surface

3. A charge-coupled device stores charges from light that is exposed to a photosensitive surface, and this stored charge is ________.
   a. converted into analog
   b. the latent image
   c. modified by Windows
   d. the visible image
   e. then chemical processed

4. In digital radiography, with ______, discharged light is converted into electrical signals with an analog to digital converter.
   a. direct capture
   b. Windows development
   c. indirect capture
   d. kernel conversion
   e. charge-coupled device

5. The basis of a digital computer most often uses a number system with a base of ___.
   a. 2
   b. 4
   c. 8
   d. 12
   e. 16

6. The hexadecimal number system uses
   a. numbers 0-8 plus the first 7 letters of the alphabet
   b. numbers 0-15
   c. numbers 0-6 plus the first 9 letters of the alphabet
   d. the first 16 letters of the alphabet
7. A BYTE is
   a. 4-bit code
   b. 6-bit code
   c. 8-bit code
   d. 12-bit code
   e. 16-bit code

8. The primary mathematical method used in the creation of images is
   a. geometric
   b. algebraic
   c. quadratic
   d. algorithm
   e. trigonometric

9. In computers, the _____ is the main operating system software that allows access to the hardware and all software application must go through this.
   a. central processing unit
   b. matrix
   c. algorithm
   d. voxel
   e. kernel

10. A digital image consists of pixels that are arranged in vertical columns and horizontal rows and this is called the
    a. kernel
    b. matrix
    c. algorithm
    d. interface
    e. voxel

11. Attenuation refers to the absorption of the x-ray beam, and absorption is influenced by all of the following EXCEPT
    a. voxel
    b. matrix
    c. thickness of the tissue
    d. tissue density
    e. atomic number

12. A 12-bit analog to digital converter ADC permits up to _____ shades of gray for each pixel.
    a. 256
    b. 512
    c. 1024
    d. 2048
    e. 4096

13. The operator has the ability to enhance the image characteristics after the image has been acquired by using the _____ controls.
    a. taskbar
    b. window level and window width
    c. maximize and minimize
    d. title bar
14. The window width creates an image that
   a. has less brightness
   b. fits the screen
   c. has greater brightness
   d. has greater contrast
   e. can be panned across

15. The ______ is the primary screen that Windows first appears on.
   a. window level
   b. study list screen
   c. region of interest
   d. desktop
   e. window width

16. The _____ on the active window displays the name of the program or file in use.
   a. menu bar
   b. scroll bar
   c. taskbar
   d. invert toolbar
   e. title bar

17. Pressing and holding the left-mouse button down while moving the mouse is called
   a. Drag
   b. Point
   c. Click
   d. Move
   e. Alter

18. Regarding the use of mouse buttons, a drop-down menu will usually appear by
   a. single clicking the left mouse button
   b. double clicking the left mouse button
   c. single clicking the right mouse button
   d. double clicking the right mouse button
   e. dragging with the left mouse button

19. Annotation tools can perform all of the following tasks EXCEPT
   a. apply distance measurements
   b. insert arrows
   c. enlarge the image
   d. insert other geometric shapes
   e. include text

20. The _____ button is another interesting feature that allows the user to convert the black and white (positive) pixel data into a negative image appearance.
   a. invert toolbar
   b. minimize
   c. zoom
   d. maximize
   e. taskbar