

PACS

Multiple Choice

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

- ___ 1. Two or more objects sharing resources and information or computers, terminals, and servers interconnected by communication channels is a definition of a:
- local area network (LAN).
 - wide area network (WAN).
 - computer network.
 - all of the above.
- ___ 2. Which of the following is considered a geographic category of networks?
- LAN
 - Computed tomography (CT) scanner
 - Computed radiography reader
 - Magnetic resonance imaging (MRI) scanner
- ___ 3. The least expensive network to install is a:
- WAN.
 - LAN.
 - CT scanner.
 - MRI scanner.
- ___ 4. Which of the following describes a thin-client computer?
- Any computer that needs a server for task completion
 - A computer that works independently of the network
 - A computer that manages resources for other computers
 - All of the above
- ___ 5. The most common connection medium for a LAN is:
- coaxial.
 - twisted pair.
 - fiber optic.
 - infrared.
- ___ 6. The biggest advantages of wireless networks are:
- the size and shape of transmitters.
 - the cost and location from source.
 - wall thickness and composition.
 - mobility and convenience.
- ___ 7. A network on which devices are connected in a circle is known as a _____ network.
- bus
 - ring
 - star
 - mesh

- ___ 8. The almost universally accepted standard for exchanging medical images is known as:
- NEMA.
 - ACR.
 - DICOM.
 - TCP/IP.
- ___ 9. The standard that oversees most computerized clinical and administrative data is known as:
- DICOM.
 - HL-7.
 - RIS.
 - HIS.
- ___ 10. RIS is specific to.
- the patient.
 - radiology.
 - the hospital.
 - patient billing.
- ___ 11. The acronym PACS stands for _____ system.
- picture archival and control
 - picture archival and communication
 - physical archive and communication
 - physical archive and compression
- ___ 12. Reading images on a computer screen is known as _____ reporting.
- soft copy
 - hard copy
 - computer
 - both a and b
- ___ 13. Which of the following are considered PACS architectures?
- Distributed system
 - Client/server-based system
 - Web-based system
- 1 only
 - 2 only
 - 1 and 2
 - 1, 2, and 3
- ___ 14. What term is used to describe the reading of images outside of the hospital walls, generally at home or in remote locations?
- Teleradiology
 - Offsite reporting
 - Long-range reporting
 - Home-based reading
- ___ 15. Which is the most interactive part of a PACS?
- Archive
 - Image manager

- c. Web server
- d. Display workstation

- ___ 16. What factors might be used when determining the best type of monitor for each workstation?
1. Resolution
 2. Size
 3. Monitor orientation
- a. 1 and 2
 - b. 1 and 3
 - c. 2 and 3
 - d. 1, 2, and 3
- ___ 17. Which term best describes a basic picture element on a display?
- a. Matrix
 - b. Pixel
 - c. Dot pitch
 - d. Resolution
- ___ 18. The number of pixels contained on a display is known as:
- a. matrix.
 - b. pixel.
 - c. resolution.
 - d. dot pitch.
- ___ 19. A square table of numbers that represents the intensity to be displayed on the monitor is a:
- a. matrix.
 - b. pixel.
 - c. resolution.
 - d. dot pitch.
- ___ 20. Which of the following would be considered categories for display workstations?
1. Primary reading
 2. Technologist QC
 3. Archive server
- a. 1 only
 - b. 1 and 2
 - c. 1 and 3
 - d. 1, 2, and 3
- ___ 21. Which of the following would be considered categories of workstation functions?
1. Navigation
 2. Image manipulation and enhancement
 3. Image management
- a. 1 and 2
 - b. 1 and 3
 - c. 2 and 3
 - d. 1, 2, and 3
- ___ 22. Which set of functions is used to move through images, series, studies, and patients?

- a. Navigation
 - b. Image management
 - c. Image manipulation and enhancement
 - d. Advanced workstation
- _____ 23. Which function determines how images are displayed on the monitor(s)?
- a. Series navigation
 - b. Hanging protocol
 - c. Flip and rotate
 - d. All of the above
- _____ 24. Which function represents the range of gray values that are being viewed on the monitor?
- a. Window
 - b. Level
 - c. Contrast
 - d. Density
- _____ 25. Which function can be used to orient the image in the anatomic hanging position?
- a. Pan and zoom
 - b. ROI
 - c. Annotations
 - d. Flip and rotate
- _____ 26. Which function increases the size of an area on the image?
- a. Pan and zoom
 - b. ROI
 - c. Annotations
 - d. Flip and rotate
- _____ 27. Which of the following measurements are commonly found on a PACS workstation?
- 1. ROI
 - 2. Distance
 - 3. Angle
 - a. 1 and 2
 - b. 1 and 3
 - c. 2 and 3
 - d. 1, 2, and 3
- _____ 28. What term describes a company that provides outsourcing of archiving and management functions for a pay-per-use charge?
- a. Application source program
 - b. Application service provider
 - c. All services provided
 - d. Archive service program
- _____ 29. Which term describes the act of keeping a complete copy of the archive in another remote location?
- a. ASP
 - b. SAN
 - c. Disaster recovery

d. All of the above

- ___ 30. Which device scans an analog film and produces numeric signals based on the appearance of the film?
- Film digitizer
 - Film imager
 - Burner
 - Archive server
- ___ 31. Any supplemental device connected to a PACS that performs a specific function is known as a(n):
- archive.
 - peripheral.
 - workstation.
 - digital imaging modality.
- ___ 32. Which term is used to describe the process of transferring images to remote locations for reading by a radiologist?
- Long-range image viewing
 - Teleradiology
 - Computed radiology
 - Distance reading
- ___ 33. Which of the following are common uses of a film digitizer?
- Compare outside films
 - Computed aided diagnosis
 - Remote viewing of analog images
- 1 and 2
 - 1 and 3
 - 2 and 3
 - 1, 2, and 3
- ___ 34. Which term describes the technology that allows a film to be digitized and then analyzed by a computer to alert the radiologist of possible questionable areas on a radiograph?
- CAD
 - TFT
 - CCD
 - Teleradiology
- ___ 35. A film imager is also known as a film:
- digitizer.
 - printer.
 - duplicator.
 - none of the above.
- ___ 36. Which of the following are common uses of imagers?
- Backup
 - Legal cases
 - Outside physicians
- 1 and 2

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

- ___ 37. Other than printing films, another alternative would be to:
- a. digitize the image into the PACS.
 - b. have the physician come to the hospital to view the images.
 - c. burn images to an optical disk.
 - d. do both a and b.

True/False

Indicate whether the statement is true or false.

- ___ 1. Digital annotations may be used to indicate the right or left side of the patient.
- ___ 2. Incorrect patient demographic information is unimportant in a PACS.
- ___ 3. Disks are much cheaper to distribute than laser film.

PACS

Answer Section

MULTIPLE CHOICE

1. ANS: D PTS: 1 REF: 132
OBJ: Distinguish between different types of network (geographic and component roles).
2. ANS: A PTS: 1 REF: 132
OBJ: Distinguish between different types of network (geographic and component roles).
3. ANS: B PTS: 1 REF: 133
OBJ: Distinguish between different types of network (geographic and component roles).
4. ANS: A PTS: 1 REF: 137
OBJ: Identify common network hardware components.
5. ANS: B PTS: 1 REF: 139
OBJ: Describe the different types of network cabling and their uses.
6. ANS: D PTS: 1 REF: 139
OBJ: Describe the different types of network cabling and their uses.
7. ANS: B PTS: 1 REF: 143
OBJ: Differentiate between the common network topologies.
8. ANS: C PTS: 1 REF: 144
OBJ: Discuss the use of DICOM in medical imaging.
9. ANS: B PTS: 1 REF: 147
OBJ: Define HL-7 and describe its use in medical imaging.
10. ANS: B PTS: 1 REF: 148
OBJ: Define HL-7 and describe its use in medical imaging.
11. ANS: B PTS: 1 REF: 152
OBJ: Define picture archival and communication system (PACS).
12. ANS: A PTS: 1 REF: 153
OBJ: Define picture archiving and communication system (PACS).
13. ANS: D PTS: 1 REF: 159-162
OBJ: Define system architecture and recognize the three major models.
14. ANS: A PTS: 1 REF: 162-163
OBJ: Define system architecture and recognize the three major models.
15. ANS: D PTS: 1 REF: 163
OBJ: Summarize the common functions found on a PACS workstation.
16. ANS: D PTS: 1 REF: 164
OBJ: Summarize the common functions found on a PACS workstation.
17. ANS: B PTS: 1 REF: 165
OBJ: Summarize the common functions found on a PACS workstation.
18. ANS: C PTS: 1 REF: 165
OBJ: Summarize the common functions found on a PACS workstation.
19. ANS: A PTS: 1 REF: 165
OBJ: Summarize the common functions found on a PACS workstation.
20. ANS: B PTS: 1 REF: 166
OBJ: Summarize the common functions found on a PACS workstation.
21. ANS: D PTS: 1 REF: 171
OBJ: Summarize the common functions found on a PACS workstation.

22. ANS: A PTS: 1 REF: 171
OBJ: Summarize the common functions found on a PACS workstation.
23. ANS: B PTS: 1 REF: 172
OBJ: Summarize the common functions found on a PACS workstation.
24. ANS: A PTS: 1 REF: 173
OBJ: Summarize the common functions found on a PACS workstation.
25. ANS: D PTS: 1 REF: 173
OBJ: Summarize the common functions found on a PACS workstation.
26. ANS: A PTS: 1 REF: 174
OBJ: Summarize the common functions found on a PACS workstation.
27. ANS: D PTS: 1 REF: 175
OBJ: Summarize the common functions found on a PACS workstation.
28. ANS: B PTS: 1 REF: 199
OBJ: Define the concept of an application service provider.
29. ANS: C PTS: 1 REF: 200
OBJ: Define the concept of an application service provider.
30. ANS: A PTS: 1 REF: 200
OBJ: Explain the differences between laser film digitizers and charge-coupled device (CCD) film digitizers.
31. ANS: B PTS: 1 REF: 205
OBJ: Discuss the common uses for imagers in a picture archival and communication system (PACS) environment.
32. ANS: B PTS: 1 REF: 203
OBJ: Discuss the common uses for imagers in a picture archival and communication system (PACS) environment.
33. ANS: D PTS: 1 REF: 203
OBJ: Compare and contrast the various long-term archive technologies used in current picture archival and communication systems.
34. ANS: A PTS: 1 REF: 203
OBJ: Compare and contrast the various long-term archive technologies used in current picture archival and communication systems.
35. ANS: B PTS: 1 REF: 203
OBJ: Compare and contrast dry laser imager technology with wet laser imager technology.
36. ANS: D PTS: 1 REF: 205
OBJ: Discuss the common uses for imagers in a PACS environment.
37. ANS: C PTS: 1 REF: 206
OBJ: Identify common uses for CD/DVD burners in a PACS environment.

TRUE/FALSE

1. ANS: F PTS: 1 REF: 173
OBJ: Summarize the common functions found on a PACS workstation.
2. ANS: F PTS: 1 REF: 176
OBJ: Summarize the common functions found on a PACS workstation.
3. ANS: T PTS: 1 REF: 206
OBJ: Identify common uses for CD/DVD burners in a PACS environment.