

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. A computer network that spans a large area such as a city, state, nation, or continent is known as a:
- WAN.
 - large area network.
 - peer-to-peer network.
 - client-based network.
- ___ 3. A network that uses a central computer that sends the entire original resource to the client is known as a:
- client-based network.
 - WAN.
 - LAN.
 - server-based network.
- ___ 4. The network connection that uses glass threads to transmit data is:
- coaxial.
 - twisted pair.
 - fiber optic.
 - infrared.
- ___ 5. A device that provides the interface between the computer and network is known as a:
- network interface card.
 - network connection card.
 - computer interface chip.
 - computer connection chip.
- ___ 6. The standard that oversees most computerized clinical and administrative data is known as:
- DICOM.
 - HL-7.
 - RIS.
 - HIS.
- ___ 7. RIS is specific to.
- the patient.
 - radiology.
 - the hospital.
 - patient billing.

- ___ 8. The system that holds a specific patient's lab results, radiology reports, and physician notes is the:
- RIS.
 - HIS.
 - electronic medical record (EMR).
 - picture archival and communication system (PACS).
- ___ 9. The system that contains patient information, billing records, and inpatient orders is the:
- RIS.
 - HIS.
 - EMR.
 - PACS.
- ___ 10. The acronym PACS stands for _____ system.
- picture archival and control
 - picture archival and communication
 - physical archive and communication
 - physical archive and compression
- ___ 11. A PACS consists of:
- image acquisition.
 - display workstation.
 - archive servers.
- 1 and 2
 - 1 and 3
 - 2 and 3
 - 1, 2, and 3
- ___ 12. A universally accepted standard for exchanging medical imaging via a networked set of display workstations, archive, and imaging modalities is:
- HIPAA.
 - DICOM.
 - HL-7.
 - all of the above.
- ___ 13. The acronym RIS stands for _____ system.
- radiology integrated
 - redundant information
 - radiology information
 - reading integrated
- ___ 14. 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

- ___ 15. The number of pixels contained on a display is known as:
- matrix.
 - pixel.
 - resolution.
 - dot pitch.
- ___ 16. If the number of _____ increase(s) on a monitor, resolution _____.
- pixels; decreases
 - matrices; decreases
 - pixels; improves
 - dot pitch; improves
- ___ 17. Which of the following would be considered categories for display workstations?
- Primary reading
 - Technologist QC
 - Archive server
- 1 only
 - 1 and 2
 - 1 and 3
 - 1, 2, and 3
- ___ 18. Which of the following would be considered categories of workstation functions?
- Navigation
 - Image manipulation and enhancement
 - Image management
- 1 and 2
 - 1 and 3
 - 2 and 3
 - 1, 2, and 3
- ___ 19. Which function determines how images are displayed on the monitor(s)?
- Series navigation
 - Hanging protocol
 - Flip and rotate
 - All of the above
- ___ 20. Which function represents the range of gray values that are being viewed on the monitor?
- Window
 - Level
 - Contrast
 - Density
- ___ 21. Which function can be used to orient the image in the anatomic hanging position?
- Pan and zoom
 - ROI
 - Annotations
 - Flip and rotate

- ___ 22. Which function increases the size of an area on the image?
- Pan and zoom
 - ROI
 - Annotations
 - Flip and rotate
- ___ 23. Which of the following measurements are commonly found on a PACS workstation?
- ROI
 - Distance
 - Angle
- 1 and 2
 - 1 and 3
 - 2 and 3
 - 1, 2, and 3
- ___ 24. The place where records or documents are preserved for historic purposes is the:
- workstation.
 - archive.
 - file cabinet.
 - redundant array of independent disks (RAID).
- ___ 25. The acronym for RAID is redundant:
- array of inexpensive disks.
 - archive of independent databases.
 - array of independent disks.
 - both a and c.
- ___ 26. Which of the following are commonly used as long-term storage for DICOM images?
- Digital linear tape
 - Optical disks
 - Film
- 1 only
 - 2 only
 - 1 and 2
 - 1, 2, and 3
- ___ 27. A category of disk drives that uses two or more drives in combination for fault tolerance and performance is:
- hard drive.
 - UDO.
 - DLT.
 - RAID.
- ___ 28. Which term describes the act of keeping a complete copy of the archive in another remote location?
- ASP
 - SAN
 - Disaster recovery
 - All of the above

- ___ 29. Which of the following devices would be considered PACS peripherals?
1. Film digitizer
 2. Film imager
 3. Archive server
- a. 1 only
 - b. 1 and 2
 - c. 2 and 3
 - d. 1, 2, and 3
- ___ 30. Which device scans an analog film and produces numeric signals based on the appearance of the film?
- a. Film digitizer
 - b. Film imager
 - c. Burner
 - d. Archive server
- ___ 31. Any supplemental device connected to a PACS that performs a specific function is known as a(n):
- a. archive.
 - b. peripheral.
 - c. workstation.
 - d. digital imaging modality.
- ___ 32. Which term is used to describe the process of transferring images to remote locations for reading by a radiologist?
- a. Long-range image viewing
 - b. Teleradiology
 - c. Computed radiology
 - d. Distance reading
- ___ 33. Which of the following are common uses of a film digitizer?
1. Compare outside films
 2. Computed aided diagnosis
 3. Remote viewing of analog images
- a. 1 and 2
 - b. 1 and 3
 - c. 2 and 3
 - d. 1, 2, and 3
- ___ 34. A film imager is also known as a film:
- a. digitizer.
 - b. printer.
 - c. duplicator.
 - d. none of the above.
- ___ 35. Which of the following are common uses of imagers?
1. Backup
 2. Legal cases
 3. Outside physicians

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

- ___ 36. What is most often the weakest link in the digital imaging chain?
- a. Monitor
 - b. Image retrieval
 - c. Processing speed
 - d. Data integrity

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.
- ___ 4. Dry imagers use chemicals to process the films.

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: 134
OBJ: Distinguish between different types of network (geographic and component roles).
3. ANS: D PTS: 1 REF: 135
OBJ: Distinguish between different types of network (geographic and component roles).
4. ANS: C PTS: 1 REF: 139
OBJ: Describe the different types of network cabling and their uses.
5. ANS: A PTS: 1 REF: 139
OBJ: Define network communication protocol.
6. ANS: B PTS: 1 REF: 147
OBJ: Define HL-7 and describe its use in medical imaging.
7. ANS: B PTS: 1 REF: 148
OBJ: Define HL-7 and describe its use in medical imaging.
8. ANS: C PTS: 1 REF: 148
OBJ: Define HL-7 and describe its use in medical imaging.
9. ANS: B PTS: 1 REF: 148
OBJ: Define HL-7 and describe its use in medical imaging.
10. ANS: B PTS: 1 REF: 152
OBJ: Define picture archival and communication system (PACS).
11. ANS: D PTS: 1 REF: 152 OBJ: Define PACS.
12. ANS: B PTS: 1 REF: 152 OBJ: Define PACS.
13. ANS: C PTS: 1 REF: 157
OBJ: Differentiate among the different types of digital imaging workflow.
14. ANS: D PTS: 1 REF: 159-162
OBJ: Define system architecture and recognize the three major models.
15. ANS: C PTS: 1 REF: 165
OBJ: Summarize the common functions found on a PACS workstation.
16. ANS: C PTS: 1 REF: 165
OBJ: Summarize the common functions found on a PACS workstation.
17. ANS: B PTS: 1 REF: 166
OBJ: Summarize the common functions found on a PACS workstation.
18. ANS: D PTS: 1 REF: 171
OBJ: Summarize the common functions found on a PACS workstation.
19. ANS: B PTS: 1 REF: 172
OBJ: Summarize the common functions found on a PACS workstation.
20. ANS: A PTS: 1 REF: 173
OBJ: Summarize the common functions found on a PACS workstation.
21. ANS: D PTS: 1 REF: 173
OBJ: Summarize the common functions found on a PACS workstation.
22. ANS: A PTS: 1 REF: 174
OBJ: Summarize the common functions found on a PACS workstation.

23. ANS: D PTS: 1 REF: 175
OBJ: Summarize the common functions found on a PACS workstation.
24. ANS: B PTS: 1 REF: 186
OBJ: Describe the use of an image archive in terms of short- and long-term storage.
25. ANS: D PTS: 1 REF: 189
OBJ: Describe the use of an image archive in terms of short- and long-term storage.
26. ANS: C PTS: 1 REF: 197
OBJ: Compare and contrast the various long-term archive technologies used in current PACSs.
27. ANS: D PTS: 1 REF: 189-191
OBJ: Compare and contrast the various long-term archive technologies used in current PACSs.
28. ANS: C PTS: 1 REF: 200
OBJ: Define the concept of an application service provider.
29. ANS: B PTS: 1 REF: 200
OBJ: Discuss the common uses for imagers in a picture archival and communication system (PACS) environment.
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: B PTS: 1 REF: 203
OBJ: Compare and contrast dry laser imager technology with wet laser imager technology.
35. ANS: D PTS: 1 REF: 205
OBJ: Discuss the common uses for imagers in a PACS environment.
36. ANS: A PTS: 1 REF: 217
OBJ: Describe the daily and monthly/quarterly monitor QC activities.

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.
4. ANS: F PTS: 1 REF: 205
OBJ: Compare and contrast dry laser imager technology with wet laser imager technology.