

BICSI Installer 1 Exam

BICSI IN101 V7

Version Demo

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QUESTION NO: 1

A wall-mounted telecommunications cabinet is being installed on a gypsum-board partition. The cabinet manufacturer provides a maximum equipment-load rating, but the installer cannot confirm that the wall structure will support the combined cabinet and equipment load. What should the installer do?

- A. Use additional toggle bolts to distribute the load across the gypsum board
- B. Mount the cabinet empty and add equipment after installation
- C. Verify the wall structure and mounting method before installation
- D. Use the cabinet manufacturer's load rating as the wall-load rating

ANSWER: C

Explanation:

The installer should stop and verify that the wall structure and mounting method can support the total intended load before mounting the cabinet. The cabinet manufacturer's load rating applies only when the enclosure is installed on suitable supporting structure using the specified mounting hardware.

Gypsum board alone may not provide adequate support for a loaded telecommunications cabinet. Using more fasteners, installing the cabinet empty, or relying on toggle bolts without evaluating the total load does not establish that the wall assembly is structurally adequate.

QUESTION NO: 2

Which of the following should be used to install plywood in a telecommunications room if the edge of the board does NOT align with the wall studs?

- A. Toggle bolts
- B. Metal nails
- C. Galvanized screws

ANSWER: A

Explanation:

Toggle bolts are appropriate when a plywood backboard edge does not coincide with a wall stud. In a telecommunications room, plywood is commonly installed as a secure mounting surface for telecommunications hardware. Where a fastener cannot be driven into framing, a toggle bolt provides a means of anchoring through a hollow wall: its spring-loaded wings open behind the wall surface and spread the supported load over a larger area than a simple fastener driven only into gypsum board. The plywood should still be fastened to available studs wherever possible, with toggle bolts used at locations that lack stud backing. Properly sized hardware, suitable wall conditions, and the anticipated equipment load must be considered so the completed backboard remains stable and capable of supporting the intended installation. This approach supports the structured-cabling principle that telecommunications spaces need robust, accessible infrastructure for mounting and administration. BICSI's standards and best-practice resources for information and communications technology infrastructure are available through [BICSI Standards](#). For general manufacturer guidance on hollow-wall toggle-anchor installation and load considerations, see [Hilti hollow-wall anchors](#).

QUESTION NO: 3

Which of the following is the primary benefit of using wall-mounted racks and cabinets in place of traditional equipment racks?

- A. Provides equipment with a higher level of protection
- B. Allows for the equipment to be easily rearranged
- C. Optimizes airflow within the equipment room
- D. Takes up less space within the equipment room

ANSWER: D

Explanation:

"Takes up less space within the equipment room" is correct because wall-mounted racks and cabinets use otherwise unused vertical wall area rather than consuming valuable floor space. This is particularly beneficial in small telecommunications rooms, equipment rooms, and other spaces where the installed equipment is limited in size and weight but clear floor area is needed for access, work activities, pathways, or additional infrastructure. By mounting eligible equipment on a wall, the installer can support a compact layout while retaining the working clearances needed to operate and maintain the telecommunications infrastructure. BICSI-oriented installation practice requires selecting the mounting method based on the equipment load, the wall's structural capability, manufacturer instructions, and required access; a wall-mounted enclosure must be properly supported and should not be used merely as a substitute for a floor-mounted rack when capacity, heat dissipation, or future growth requires a larger solution. The space-saving advantage is the primary distinction in this comparison: traditional floor-standing equipment racks occupy room floor area, whereas wall-mounted solutions conserve it. For related telecommunications-space planning guidance, see [BICSI Standards](#) and the [Telecommunications Industry Association standards resources](#).

QUESTION NO: 4

Which of the following tend to cause sheath damage during cable pulling?

- A. FMC/FMT
- B. RMC/IMC
- C. EMT/ENT

ANSWER: A

Explanation:

FMC/FMT is correct because its flexible, corrugated metal construction creates a less uniform cable pathway than smooth raceway. As cable moves through the bends and convolutions of flexible metal conduit or flexible metal tubing, the cable sheath can encounter concentrated contact points and elevated sidewall pressure. Those conditions increase friction and can abrade, scrape, or otherwise damage the outer sheath, particularly when the pulling route is long, contains bends, or is not properly prepared. Installer best practice is to inspect the raceway, ensure fittings and ends are properly protected, maintain the manufacturer's pulling-tension and bend-radius limits, and use an approved pulling lubricant when appropriate. These practices help preserve the cable's sheath, which is essential to maintaining the cable's environmental and mechanical protection after installation. The OSHA electrical standard identifies flexible metal conduit and flexible metallic tubing as recognized wiring methods; their construction and installation must support safe conductor installation. See [OSHA 29 CFR 1910.305, Wiring Methods](#) and [NFPA 70, National Electrical Code overview](#).

QUESTION NO: 5

Which of the following interconnects the PBB to the SBB?

- A. TBB
- B. BBC
- C. RBB
- D. TEBC

ANSWER: B

Explanation:

BBC is correct because the bonding backbone conductor is the conductor that establishes the intentional bonding path between the primary bonding busbar (PBB) and one or more secondary bonding busbars (SBBs). This backbone connection is a core part of the telecommunications bonding infrastructure: it provides a low-impedance, permanent path that helps maintain equipotential bonding throughout telecommunications spaces and supports effective fault-current return and surge-current dissipation. The PBB serves as the principal bonding point for the telecommunications bonding system, while SBBs extend that bonding structure to other applicable spaces. The BBC is therefore the specific interconnecting conductor between them. Current telecommunications grounding and bonding terminology and installation requirements are addressed by the ANSI/TIA-607 series, while BICSI's standards resources provide the broader infrastructure guidance used by installers and designers. See the [Telecommunications Industry Association standards information](#) and [BICSI Standards](#) for standards and related guidance.

QUESTION NO: 6

What grade of plywood is recommended for use with ICT systems?

- A. A/C
- B. A/D
- C. C/D
- D. B/C

ANSWER: A

Explanation:

A/C is the recommended plywood grade for ICT-system applications, particularly where plywood is used as a telecommunications backboard or as a mounting surface for distribution hardware. The "A" face provides a smooth, sound, finish-quality surface suitable for a clean installation and for securely locating equipment, while the "C" reverse face is acceptable where its appearance is not exposed or is less important. This face-grade combination provides a practical balance of surface quality, strength, availability, and cost for infrastructure spaces. In ICT installations, the plywood must also be appropriately sized, securely fastened, and compliant with the project's applicable fire, building, and electrical requirements. Where a fire-retardant-treated panel is specified, the treatment and its field-cutting requirements must be addressed in accordance with the authority having jurisdiction and the manufacturer's instructions. The APA explains that plywood panel face grades identify the allowable appearance and repair characteristics of each veneer face; this supports selecting an A-face panel where a high-quality mounting surface is needed. See the [APA grade and trademark information](#) and BICSI's [standards overview](#) for related infrastructure guidance.

QUESTION NO: 7

If you are working on a catwalk, you are required to wear _____?

- A. Full body harness and two lanyards
- B. Nothing, your fine on the catwalk
- C. Safety belt

ANSWER: A

Explanation:

Full body harness and two lanyards is the appropriate answer because catwalk work can expose an installer to a fall hazard, particularly while entering, exiting, or moving past interruptions in available anchorage. A full-body harness is the body support component used for personal fall-arrest systems and is designed to distribute arresting forces across the

thighs, pelvis, chest, and shoulders. Two lanyards allow continuous, or 100-percent, tie-off: the worker remains connected to a suitable anchorage with one lanyard before transferring the other to the next approved attachment point. This method maintains fall protection while progressing along the catwalk rather than creating an unprotected period during a connection change.

Fall-protection equipment must be inspected before use, connected only to approved anchorages, and used according to the employer's fall-protection plan, equipment manufacturer instructions, and site-specific rules. The applicable OSHA construction criteria identify a body harness as the required body-support component of a personal fall-arrest system and establish requirements for connectors, lanyards, and anchorage strength. See [OSHA 29 CFR 1926.502—Fall protection systems criteria and practices](#) and [OSHA Fall Protection](#).

QUESTION NO: 8

A third 90-degree bend may be permitted in a conduit run if the run does NOT exceed _____?

- A. 5 m (16.5')
- B. 10 m (33')
- C. 15 m (50')
- D. 30 m (100')

ANSWER: B

Explanation:

The correct limit is **10 m (33')**. BICSI pathway installation guidance generally limits a conduit section to two 90-degree bends so that communications cable can be pulled without excessive pulling tension, sidewall pressure, or risk of jacket and conductor damage. A short conduit section may accommodate a third 90-degree bend because the reduced overall pulling distance helps keep installation forces manageable. The 10 m (33 ft) maximum is therefore an exception intended for short runs, not a general allowance for adding bends to longer pathways. Installers should also plan pull points, junction boxes, or other access locations where needed so each cable pull remains practical and compliant with the applicable project specifications and governing electrical requirements. Bend-radius requirements still apply independently; allowing a third bend on a short run does not permit tight bends or other practices that could damage cable. BICSI's standards and publications provide the structured-cabling pathway guidance used for this type of installation decision, while electrical-code requirements establish additional conduit limits and installation rules. See [BICSI Standards](#) and [NFPA 70, National Electrical Code](#).