CSLB C-7 Low Voltage Systems Contractor Practice Test

20 original practice questions for the California contractor license exam, with an answer key and explanations.

Format
Multiple choice, 4 options, one best answer

Topics
Grouped by the published CSLB topic areas

Question bank
Last updated: November 2026

How to use this test

1. Answer all 20 questions without notes — the CSLB exam is closed-book.
2. Check the answer key at the end and read the explanation for every miss.
3. Take the same test online for instant explanations and a result by topic: test2pro.com/free-practice-tests/c7-low-voltage-contractor

Scan to take it online

Exam topic areas and approximate weights

Job Planning and Design	18%
Material Selection and Estimation	15%
Wire/Cable Installation and Termination	12%
Systems Configuration and Installation	16%
Testing and Project Closeout	17%
System Troubleshooting, Repairs, or Replacements	7%
Safety	15%

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Questions

1 SAFETY

At what trench depth does Cal/OSHA require a ladder, stairway, ramp, or other safe means of egress?

(A) 5 ft
(B) 4 ft
(C) 3 ft
(D) 6 ft

2 SAFETY

Under Cal/OSHA's Construction Safety Orders, what is the longest permitted interval between a supervisor's toolbox or tailgate safety meetings with the crew?

(A) 5 working days
(B) 10 working days
(C) 15 working days
(D) 20 working days

3 SAFETY

When spoil piles are kept back from a trench instead of being restrained by a retaining device, what minimum setback does Cal/OSHA require?

(A) 1.5 ft
(B) 2 ft
(C) 3 ft
(D) 1 ft

4 MATERIAL SELECTION AND ESTIMATION

A rack-mounted assembly occupies 24 consecutive mounting-hole positions on one rail, spanning complete rack-unit groups. How many rack units does it occupy?

(A) 8 RU
(B) 6 RU
(C) 12 RU
(D) 24 RU

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5 MATERIAL SELECTION AND ESTIMATION

With full PoE+ (Type 2) power allocated at the switch port, how much power is guaranteed at the powered device after the cable's allowable losses?

(A) 13 W
(B) 15.4 W
(C) 25.5 W
(D) 30 W

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6 MATERIAL SELECTION AND ESTIMATION

What plywood thickness is commonly specified as the minimum for a telecommunications-room equipment backboard?

(A) 1/4 in.
(B) 5/8 in.
(C) 3/4 in.
(D) 1/2 in.

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7 JOB PLANNING AND DESIGN

When planning a 1 Gbps Cat 5e link, what is the maximum channel length, including patch cords?

(A) 295 ft
(B) 361 ft
(C) 164 ft
(D) 328 ft

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8 JOB PLANNING AND DESIGN

Which voltage is the upper limit for the energy-limited systems covered by California's C-7 classification?

(A) 91 V
(B) 120 V
(C) 300 V
(D) 50 V

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9 JOB PLANNING AND DESIGN

A resistive load operates at 24 V and has a resistance of 16 Ω. How much electrical power does it consume?

(A) 384 W
(B) 24 W
(C) 36 W
(D) 1.5 W

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10 JOB PLANNING AND DESIGN

A circuit supplies one 80 W device, three 120 W devices, and four 60 W devices. A stereo labeled 500 W electrical input and 1,500 W peak audio output is added. What is the total connected electrical load?

(A) 1,180 W
(B) 680 W
(C) 2,180 W
(D) 1,060 W

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11 SYSTEM TROUBLESHOOTING, REPAIRS, OR REPLACEMENTS

A paging system has been integrated with background music. Pages are heard, but the music keeps playing at full level during each page. What should be added to correct this?

(A) Shielded speaker cable for the paging zone
(B) A priority relay between the music source and the amplifier
(C) A higher-output paging microphone
(D) A second amplifier channel dedicated to paging

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12 TESTING AND PROJECT CLOSEOUT

A conventional central-office POTS line is idle and not ringing. What nominal DC voltage magnitude would you expect between tip and ring?

(A) About 6 V DC
(B) About 24 V DC
(C) About 90 V DC
(D) About 48 V DC

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13 TESTING AND PROJECT CLOSEOUT

Which instrument is best suited to measure a component's AC impedance?

(A) LCR meter
(B) Wattmeter
(C) Digital multimeter
(D) Megohmmeter

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14 TESTING AND PROJECT CLOSEOUT

Before applying an insulation-resistance test voltage to a transformer, which connected circuits must be isolated?

(A) Both the primary and secondary circuits
(B) Only the primary circuit
(C) Only the secondary circuit
(D) Neither circuit if the test voltage is low

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15 TESTING AND PROJECT CLOSEOUT

A clamp-on ammeter is used on a two-wire AC load circuit. Which jaw placement measures the load current?

(A) Hold the closed jaws beside one conductor
(B) Close the jaws around either circuit conductor by itself
(C) Close the jaws around both circuit conductors together
(D) Place one conductor between jaws that remain open

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16 SYSTEMS CONFIGURATION AND INSTALLATION

What is the minimum spacing between two ground rods installed as grounding electrodes?

(A) 3 ft
(B) 6 ft
(C) 5 ft
(D) 8 ft

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17 SYSTEMS CONFIGURATION AND INSTALLATION

What does an RJ31X connection allow an alarm panel to do when it must report an alarm over a conventional telephone line?

(A) Disconnect the premises phones and seize the incoming line
(B) Dial out in parallel with the premises phones once the line is idle
(C) Share the line with an off-hook phone without interrupting the call
(D) Switch the alarm call to the second pair of a two-line jack

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18 SYSTEMS CONFIGURATION AND INSTALLATION

Which sequence correctly traces a received satellite-TV signal through the receiving equipment?

(A) Feedhorn → downconverter → low-noise amplifier → receiver → television
(B) Feedhorn → low-noise amplifier → downconverter → receiver → television
(C) Feedhorn → low-noise amplifier → receiver → downconverter → television
(D) Low-noise amplifier → feedhorn → downconverter → receiver → television

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19 WIRE/CABLE INSTALLATION AND TERMINATION

For conventional inside-plant fiber-optic cable with more than four fibers, what minimum bend-radius rule is commonly used when the installed cable is under no tensile load?

(A) 20 times the cable's outside diameter
(B) 40 times the cable's outside diameter
(C) 10 times the cable's outside diameter
(D) 30 times the cable's outside diameter

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20 WIRE/CABLE INSTALLATION AND TERMINATION

What is the standard maximum pulling tension for ordinary four-pair Cat 6 UTP cable, unless its manufacturer specifies a lower limit?

(A) 100 lbf
(B) 75 lbf
(C) 50 lbf
(D) 25 lbf

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Answer key and explanations

#	ANSWER	WHY
1	**B**	Cal/OSHA §1541(c)(2) requires safe egress in trenches 4 ft or more in depth. It must be positioned so employees travel no more than 25 ft laterally to reach it.
2	**B**	Cal/OSHA §1509(e) requires supervisors to hold toolbox or tailgate safety meetings at least once every 10 working days.
3	**B**	Cal/OSHA §1541(j)(2) requires materials or equipment that could fall or roll into an excavation to be at least 2 ft from the edge, or protected by an effective retaining device.
4	**A**	Each rack unit has three mounting-hole positions on each rail. Therefore, 24 ÷ 3 = 8 RU.
5	**C**	PoE+ (IEEE 802.3at Type 2) provides 30 W at the power-sourcing equipment and guarantees 25.5 W at the powered device after allowable cable losses. 15.4 W at the source and 13 W at the device are the corresponding figures for original PoE (802.3af Type 1).
6	**C**	A 3/4 in. plywood backboard is commonly specified for telecommunications equipment mounting. The project specification also controls its grade, fire treatment, and fastening.
7	**D**	A Cat 5e channel supporting 1000BASE-T may be up to 100 m, or about 328 ft, including the patch cords. The usual permanent-link limit is 90 m, about 295 ft.
8	**A**	The C-7 classification covers energy-limited communication and low-voltage systems that do not exceed 91 V. The classification also defines which types of systems are covered.
9	**C**	For a resistive load, P = dfracE²R = dfrac24²16 = 36 W where E is the voltage and R the resistance. The current, 24 ÷ 16 = 1.5 A, is not the power; 384 W comes from multiplying 24 × 16 instead of using the formula, and 24 W simply repeats the voltage.
10	**A**	Add the electrical input ratings: 80 + (3 × 120) + (4 × 60) + 500 = 1,180 W. The peak audio-output rating is not the stereo's electrical input rating.
11	**B**	A priority relay interrupts or ducks the music source when paging is activated. A separate amplifier channel alone does not establish paging priority; microphone level and cable shielding do not provide that control.
12	**D**	A conventional central-office analog telephone line has a nominal on-hook battery voltage of about 48 V DC across tip and ring. Actual readings vary; off-hook and ringing conditions are different.
13	**A**	An LCR meter applies an AC test signal and measures inductance, capacitance, and resistance, from which it determines impedance. The resistance functions of a multimeter or megohmmeter use DC and do not capture reactance. A wattmeter measures real power.
14	**A**	Isolate both the primary and secondary circuits, secure against re-energization, and verify that the transformer is de-energized before connecting the insulation tester. Opening only one side does not provide complete isolation.
15	**B**	Close the jaws around one circuit conductor only. Enclosing both the supply and return conductors causes their opposing magnetic fields to cancel, producing little or no load-current reading.
16	**B**	The minimum spacing is 6 ft between rod electrodes. Greater spacing may improve their effectiveness; the minimum does not guarantee that their resistance areas never overlap.

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#	ANSWER	WHY
17	**A**	An RJ31X is wired in series ahead of the premises phones. During an alarm, the panel disconnects those phones and seizes the incoming line, so an off-hook phone or an active call cannot block the report. A parallel connection or a two-line jack does not provide line seizure.
18	**B**	The feedhorn directs the received signal to the low-noise amplifier. The downconverter shifts it to a lower frequency for the receiver, which supplies the television. The amplifier and downconverter may share an LNB housing.
19	**C**	TIA-568.3 gives inside-plant cable with more than four fibers a minimum bend radius of 10 times its outside diameter with no tensile load and 15 times while under pulling load up to its rated limit. 20 times is the loaded radius commonly used for outside-plant cable and the rule of thumb during pulls. Where the manufacturer specifies a radius for the actual product, use it.
20	**D**	The usual maximum pulling tension for four-pair UTP category cable is 25 lbf. Exceeding the limit can distort the pair geometry and impair performance; follow a lower manufacturer limit when specified.

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