



**CONTRACTORS STATE LICENSE BOARD
LICENSE EXAMINATION STUDY GUIDE**



SOLAR (C-46)

Content of the Examination

The Solar (C-46) Examination is divided into six major sections:

- 1. Planning and Estimating (19%)**
 - Evaluate client needs and site feasibility
 - Design system
 - Read and draw plans
 - Estimate job cost
- 2. Solar Collector Installation (15%)**
 - Install roof mount collectors
 - Install ground mount collectors
 - Install building integrated photovoltaic (BIPV) systems
 - Weatherproof penetrations
- 3. Solar Thermal Installation (18%)**
 - Install hot water systems
 - Install pool heating systems
 - Install radiant and air systems
- 4. Photovoltaic (PV) System Installation (22%)**
 - Install basic PV systems
 - Install energy storage systems
 - Interface with utility grid
- 5. Service and Maintenance (12%)**
 - Evaluate PV systems
 - Evaluate thermal systems
 - Repair and replace components
- 6. Safety (14%)**
 - Protect public from safety hazards
 - Identify and correct unsafe working conditions
 - Handle hazardous materials

Percentages are approximate

Test Site Policy

This is a closed-book examination. No reference materials may be used during the examination. All materials brought to the examination site must be left in an unmonitored area at your own risk.

Test Strategy

This is a multiple-choice examination with four choices per question. Some questions require mathematical computation. Examination questions are written to provide only one BEST answer and are NOT written as trick questions.

There is no penalty for guessing. If you are unsure about a particular question, it is better to try to answer the question than to leave the question blank.

Plenty of time is provided to answer all examination questions, so be sure to read each question and its four choices completely and carefully before selecting the BEST possible answer to the question.

Sample Questions

Below are three typical examination questions. The correct answer is marked with “▶.”

1. Which of the following valves opens to relieve internal pressure in a vessel?
 - a. Stop valve
 - b. Check valve
 - c. Pressure reducing valve
 - ▶ d. T & P valve

2. As the temperature of a PV module increases, what will happen to the voltage?
 - a. The voltage will increase.
 - ▶ b. The voltage will decrease.
 - c. The voltage will be unaffected.
 - d. It depends on the module design.

3. If a swimming pool is 20' by 30' and filled to a depth of 8', what is the volume of water to be solar heated?
 - a. 600 cubic yards
 - b. 4,800 cubic yards
 - c. 33,600 gallons
 - ▶ d. 35,904 gallons

All questions are written and reviewed by licensed contractors who are actively working in the field

Resources

Publisher information for reference books and code is provided below. Other sources for purchasing books and for viewing code may be found online. California code books can be viewed online: www.bsc.ca.gov

2013 California Building Code. California Code of Regulations, Title 24. International Code Council.
PHONE: (800) 786-4452
INTERNET: www.iccsafe.org

2013 California Electrical Code. California Code of Regulations, Title 24. BNI Publications, Inc.
PHONE: (888) 264-2665
INTERNET: www.bni-books.com

2013 California Energy Code.

International Code Council.
PHONE: (800) 786-4452
INTERNET: www.iccsafe.org

2013 California Fire Code.

International Code Council.
PHONE: (800) 786-4452
INTERNET: www.iccsafe.org

2013 California Mechanical Code.

International Association of Plumbing and Mechanical Officials (IAPMO).
PHONE: (800) 854-2766
INTERNET: www.iapmo.org

2013 California Plumbing Code.

International Association of Plumbing and Mechanical Officials (IAPMO).
PHONE: (800) 854-2766
INTERNET: www.iapmo.org

Operating Guidelines for Certifying Solar Water Heating Systems (OG 300). 2014. The Solar Rating and Certification Corporation.
PHONE: (321) 213-6037
INTERNET: www.solar-rating.org

Photovoltaic Systems. 2012. American Technical Publishers, Inc.
PHONE: (800) 323-3471
INTERNET: www.go2atp.com

State of California General Industry & Electrical Safety Orders (Cal/OSHA) and State of California Construction Safety Orders (Cal/OSHA). 2015. California Code of Regulations, Title 8. Mancomm.
PHONE: (877) 626-2666
INTERNET: www.mancomm.com

Uniform Solar Energy Code (2012).

International Association of Plumbing and Mechanical Officials (IAPMO).
PHONE: (800) 854-2766
INTERNET: www.iapmo.org

Publisher information is current as of 4/15