



## CONTRACTORS STATE LICENSE BOARD LICENSE EXAMINATION STUDY GUIDE



### REFRIGERATION (C-38)

#### Content of the Examination

The Refrigeration (C-38) Examination is divided into five major sections:

##### 1. Planning and Estimation (18%)

- Planning refrigeration projects
- Estimating refrigeration projects

##### 2. Installation of Refrigeration Systems (31%)

- Rough-in refrigeration systems
- Install refrigeration equipment
- Start-up refrigeration systems
- Install specialty refrigeration systems

##### 3. Repair of Refrigeration Systems (18%)

- Troubleshooting refrigeration systems
- Perform refrigeration system repairs

##### 4. Maintenance of Refrigeration Systems (19%)

- Maintain refrigeration systems
- Code compliance activities

##### 5. Safety (14%)

- Employee safety
- Job site safety

*\*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. Examination questions are written to provide only one BEST answer. Some questions require mathematical computation. A calculator will be provided.

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 underlined.

1. Where must the emergency control be installed for a refrigeration room?
  - a. Immediately next to the exit door of the building
  - b. Immediately outside the refrigeration room's exit
  - c. Within 10 feet of the main control panel
  - d. Within 25 feet of the main control panel
  
2. With the power on, what is the proper sequence when checking fuses on a 3-phase fused disconnect?
  - a. Line to line of alternate adjacent phase
  - b. Ground to load of alternate adjacent phase
  - c. Line to ground of alternate adjacent phase
  - d. Line to load of alternate adjacent phase
  
3. A contractor is bidding to install a walk-in cooler and finds that the compressor costs \$4,600 and the piping is \$5.76/foot for 200 feet of pipe. If this is 40% of the contract, what is the contract's total bid price?
  - a. \$5,752
  - b. \$9,204
  - c. \$10,360
  - d. \$14,380

*\*All questions are written and reviewed by licensed contractors who are actively working in the trade\**

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## Resources

*Publisher information for reference books and code is provided below. Other sources for reference books may be found online. **California code books can be viewed online: [www.bsc.ca.gov](http://www.bsc.ca.gov)***

**2016 California Electrical Code.** California Code of Regulations, Title 24. BNI Publications, Inc.  
PHONE: (888) 264-2665  
INTERNET: [www.bni-books.com](http://www.bni-books.com)

**2016 California Mechanical Code.** California Code of Regulations, Title 24. International Association of Plumbing and Mechanical Officials (IAPMO).

PHONE: (800) 854-2766

INTERNET: [www.iampo.org](http://www.iampo.org)

**California Health & Safety Code.**

INTERNET: [www.leginfo.ca.gov](http://www.leginfo.ca.gov)

**Fundamentals of HVAC/R.** Carter Stanfield & David Skaves. Pearson.

INTERNET: [www.mypearsonstore.com](http://www.mypearsonstore.com)

**Modern Refrigeration and Air Conditioning.**

Goodheart-Willcox Company.

PHONE: (800) 323-0440

INTERNET: [www.g-w.com](http://www.g-w.com)

**Refrigeration & Air Conditioning Technology.**

Delmar Cengage Learning.

PHONE: (800) 354-9706

INTERNET: [www.cengage.com/delmar](http://www.cengage.com/delmar)

**State of California General Industry & Electrical Safety Orders (Cal/OSHA) and State of California Construction & Electrical Safety Orders (Cal/OSHA). 2015.** California Code of Regulations, Title 8. Mancomm.

PHONE: (877) 626-2666

INTERNET: [www.mancomm.com](http://www.mancomm.com)

*\*Publisher information is current as of 1/17\**