



## CONTRACTORS STATE LICENSE BOARD LICENSE EXAMINATION STUDY GUIDE



### GENERAL ENGINEERING (A)

#### Content of the Examination

The General Engineering (A) Examination is divided into eight major sections:

#### 1. Planning, Estimating, and Project Management (25%)

- Plans and specifications
- Estimation
- Standards, codes, and regulations
- General building mathematics

#### 2. Structural Principles (6%)

- Structural construction
- Seismic safety
- Basic engineering

#### 3. Earthwork and Surveying (15%)

- Earthwork
- Soils and geology
- Surveying
- Site preparation

#### 4. Subsurface Work (15%)

- Shoring and sloping
- Dry utility and waterproofing
- Tunneling, drilling, and boring
- Surface drainage and water work
- Trenching and pipeline
- Sewers, water, and storm drain systems

#### 5. Foundation and Concrete Construction (8%)

- Concrete principles and placement
- Forms and falsework
- Foundations

#### 6. Buildings/Structures and Related Work (5%)

- Commercial/industrial buildings
- Mechanical, electrical, and plumbing
- Masonry
- Demolition and disposal

#### 7. Roadwork and Paving (6%)

- Highways, roads, and parking lots

#### 8. Safety (20%)

- Personnel
- Transportation and traffic control
- Environmental

*\*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. What type of connection is used to flush a water line?
  - a. Air release valve
  - b. Blow off valve
  - c. Post indicator valve
  - d. Detector check valve
2. What is the MOST important reason for someone to supervise the rate of pour when concrete is placed in high wall forms?
  - a. To prevent rebar movement
  - b. To ensure proper vibration
  - c. To avoid cement pockets
  - d. To avoid form collapse
3. Excluding any shrinkage or compaction, approximately how much backfill material is required to fill the void left by removal of a 10,000 gallon underground tank?
  - a. 30 cu. yds.
  - b. 40 cu. yds.
  - c. 50 cu. yds.
  - d. 60 cu. yds.

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

## 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)**

**2015 Standard Plans and Standard Specifications, State of California Department of Transportation.** Caltrans Publications Unit.  
PHONE: (916) 263-0822  
INTERNET:  
[www.caltrans-opac.ca.gov/publicat.htm](http://www.caltrans-opac.ca.gov/publicat.htm)

**2014 California Manual on Uniform Traffic Control Devices for Streets and Highways: Part 6. Temporary Traffic Control.**  
State CA, Department of Transportation, Caltrans.  
PHONE: (916) 263-0822  
INTERNET: [www.dot.ca.gov/manuals.htm](http://www.dot.ca.gov/manuals.htm)

**2016 California Building Code.** California Code of Regulations, Title 24. International Code Council.  
PHONE: (800) 786-4452  
INTERNET: [www.iccsafe.org](http://www.iccsafe.org)

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

**2016 California Energy Code.**  
California Code of Regulations, Title 24. International Code Council.  
PHONE: (800) 786-4452  
INTERNET: [www.iccsafe.org](http://www.iccsafe.org)

**2016 California Fire Code.**  
California Code of Regulations, Title 24. International Code Council.  
PHONE: (800) 786-4452  
INTERNET: [www.iccsafe.org](http://www.iccsafe.org)

**2016 California Mechanical Code.** California Code of Regulations, Title 24. International Association of Plumbing and Mechanical Officials (IAPMO).  
PHONE: (800) 854-2766  
INTERNET: [www.iapmo.org](http://www.iapmo.org)

**2016 California Plumbing Code.**  
California Code of Regulations, Title 24. International Association of Plumbing and Mechanical Officials (IAPMO).  
PHONE: (800) 854-2766  
INTERNET: [www.iapmo.org](http://www.iapmo.org)

**Excavation and Grading Handbook.**  
Craftsman Book Company.  
PHONE: (800) 829-8123  
INTERNET: [www.craftsman-book.com](http://www.craftsman-book.com)

**Formwork for Concrete (SP-4).**  
American Concrete Institute.  
PHONE: (248) 848-3800  
INTERNET: [www.concrete.org/general/home.asp](http://www.concrete.org/general/home.asp)

**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)  
VIEW ONLINE:  
[www.dir.ca.gov/dosh/LawsAndRegulations.htm](http://www.dir.ca.gov/dosh/LawsAndRegulations.htm)

*\*Publisher information is current as of 12/16\**