



## 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 and Estimating (15%)

- Reviewing plans and specifications
- Code compliance
- Evaluating job sites
- Coordinating projects with other trades
- Estimating costs for materials, equipment, and labor

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

- Constructing structures
- Seismic requirements
- Basic engineering

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

- Surveying job sites
- Preparing job sites
- Assessing soil conditions
- Assessing soil compaction and expansion

#### 4. Subsurface, Surface, and Elevated Piping Work (21%)

- Shoring and sloping excavations
- Preventing erosion
- Tunneling, drilling, and boring
- Installing pipelines
- Connecting and testing systems
- Connecting dry utilities

#### 5. Foundation and Concrete Construction (11%)

- Constructing forms and falsework
- Placing and finishing concrete
- Installing pilings and foundations

#### 6. Buildings, Structures, and Related Work (9%)

- Installing mechanical systems
- Installing plumbing pipes
- Installing electrical systems
- Demolition, disposal, and recycling

#### 7. Roadwork and Paving (5%)

- Base for highways, roads, and parking lots

#### 8. Safety (18%)

- Personnel and job site safety
- Personal protective equipment (PPE)
- Hazardous material safety

*\*Percentages are approximate\**

#### Test Policy

This is a closed-book examination. No reference materials may be used during the examination.

#### 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 marked with an asterisk (\*).

1. What type of connection is used to flush a water line?
  - a. An air release valve
  - b. A blow-off valve\*
  - c. A post indicator valve
  - d. A detector check valve
2. What is the MOST important reason for someone to supervise the rate of pour when concrete is used for high wall forms?
  - a. To prevent rebar movement
  - b. To ensure proper vibration
  - c. To avoid cement pockets
  - d. To avoid collapse\*
3. Excluding any shrinkage or compaction, approximately how much backfill material is required to fill the void after removing a 10,000-gallon rectangular underground tank at surface level?
  - 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.dgs.ca.gov/bsc](http://www.dgs.ca.gov/bsc)**

**2022 California Building Code.** California Code of Regulations, Title 24. International Code Council.  
PHONE: (800) 786-4452  
INTERNET: [www.iccsafe.org](http://www.iccsafe.org)

**2022 California Electrical Code.** California Code of Regulations, Title 24. BNI Publications, Inc.  
PHONE: (888) 264-2665  
INTERNET: [www.bnibooks.com](http://www.bnibooks.com)

**2022 California Plumbing Code.** California Code of Regulations, Title 24. International Association of Plumbing and Mechanical Officials (IAPMO).  
PHONE: (909) 472-4100  
INTERNET: [iapmo.org](http://iapmo.org)

**ACI CODE-318-19(22): Building Code Requirements for Structural Concrete.**  
American Concrete Institute.  
PHONE: (248) 848-3800  
INTERNET: [www.concrete.org](http://www.concrete.org)

**California Manual on Uniform Traffic Control Devices: Part 6, Temporary Traffic Control.**  
State of California Department of Transportation (Caltrans).  
PHONE: (916) 654-2852  
INTERNET: [dot.ca.gov/manuals](http://dot.ca.gov/manuals)

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

**Fundamentals of Building Construction: Methods and Materials.** Edward Allen, Joseph Iano. Wiley.  
PHONE: (877) 762-2974  
INTERNET: [www.wiley.com](http://www.wiley.com)

**Moving the Earth: Excavation Equipment, Methods, Safety, and Cost.** McGraw-Hill Professional.  
PHONE: (877) 833-5524  
INTERNET: [www.mhprofessional.com](http://www.mhprofessional.com)

**Standard Plans and Standard Specifications.**  
State of California Department of Transportation (Caltrans).  
PHONE: (916) 654-2852  
INTERNET: [dot.ca.gov](http://dot.ca.gov)

**State of California General Industry & Electrical Safety Orders (Cal/OSHA) and State of California Construction & Electrical Safety Orders (Cal/OSHA). 2024.** California Code of Regulations, Title 8. Mancomm.  
PHONE: (877) 626-2666  
INTERNET: [mancomm.com](http://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 10/24\**