The Project Management portion of the examination will consist of 50 equally weighted questions covering managing, controlling, and conducting a specific project.

The examination will have questions relating to the following content areas and necessary knowledge for each area includes:

- reading and interpreting plans and specifications
- reading and interpreting codes
- basic mathematics
  - (addition, subtraction, multiplication, division, calculations of area and volume, fractions, decimals, percentages, calculating the sides of triangles, square roots, powers of numbers, and solving simple algebraic equations for unknown variables)

You should be prepared to respond to examination questions on any of the content areas listed. Questions asked and content areas tested on previous examinations should not be assumed to be the only possible questions to be asked or content areas to be tested on this examination.

The percentage of questions shown for each content area may vary by as much as plus or minus three (3) percent. Please refer to the Candidate Information Brochure and the Reference List for additional information.

### Content Area E

**64%**

*Construction Methods, Materials, Tools, and Equipment*

1. **Performing site layouts**
   - understanding of surveys (e.g., types, instruments, methods)
     - Knowledge of benchmarks
     - Knowledge of elevations (including FEMA requirements)
     - Knowledge of setbacks and easements
     - Knowledge and interpretation of site plan
     - Knowledge of environmental impact (e.g., wetlands, trees, retention ponds, storm water drainage)
     - Knowledge of material storage

2. **Evaluating soil conditions**
   - Knowledge of soils (e.g., soil types, compaction, density, proctor, moisture content)
   - Interpreting soil reports
   - Knowledge of appropriate foundation types given soil conditions
   - Knowledge of water tables

3. **Performing earthwork**
   - Knowledge of excavations (e.g., cut and fill calculations, calculating excavations and grades, trenching)
   - Preparation of site for foundation (e.g., angle of repose, soil compaction)
   - Knowledge of sheeting, shoring for excavations and dewatering
   - Knowledge of erosion control
   - Knowledge of quality control related to earth-work

4. **Placing and testing concrete**
   - Knowledge of shoring
   - Knowledge of loads (e.g., volume, pressure)
   - Knowledge of systems and methods for concrete (e.g., Footings, piles and pile caps, placing slabs and decks, columns, walls)
   - Knowledge of forming practices, bracing and erection
   - Knowledge of concrete reinforcement
   - Knowledge of quality control related to concrete
   - Knowledge of concrete mixes and additives

5. **Placing masonry**
   - Knowledge of erection and bracing
   - Knowledge of masonry materials and handling
   - Knowledge of quality control related to masonry
   - Knowledge of reinforcement
   - Knowledge of grouting

6. **Framing with wood**
   - Knowledge of lumber types (e.g., engineered, wood grades, species)
   - Knowledge of truss erection and bracing
   - Knowledge of rafters, floor joists and studs
   - Knowledge of and ability to use span tables
   - Knowledge of wind loads and fasteners
   - Knowledge of roof framing, sheathing and materials
7. **Framing with metal**
   Knowledge of metal materials (e.g., aluminum, steel, gauges, grade)
   Knowledge of pre-engineered buildings
   Knowledge of erection and bracing techniques
   Knowledge of metal studs, beams, columns, bar joists, fasteners, and trusses
   Knowledge of coatings (e.g., painting, fire, and corrosion protection)
   Knowledge of welding and connections of steel framing
   Knowledge of metal roof framing

8. **Understanding innovative techniques**
   Knowledge of tilt-up construction
   Knowledge of SIP’s (Structural Insulated Panels)
   Knowledge of ICF (Insulated Concrete Forms)
   Knowledge of slip forming

9. **Implementing energy efficient construction**
   Ability to interpret energy calculations
   Knowledge of R-values and U-values for different materials
   Knowledge of building envelopes
   Knowledge of blower door testing
   Knowledge pertaining to energy efficiency
   Knowledge of types and placement of insulation (e.g., rigid and spray foam, batts)

10. **Installing miscellaneous materials**
    Knowledge of gypsum materials and methods (e.g., fastening requirements, fire wall assembly)
    Knowledge of plaster and stucco materials and methods
    Knowledge of moisture control (vapor barriers, flashings, etc.)
    Knowledge of cementitious materials
    Knowledge of fire-proofing wall and floor penetrations
    Knowledge of insulated wall panels
    Knowledge of roof covering materials (e.g., pre-engineered systems, shingles)

11. **Understanding the use of heavy equipment**
    Knowledge of cranes
    Knowledge of hoisting equipment
    Knowledge of lift plans

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### Content Area F

**Safety**

1. **Complying with OSHA standards**
   - Knowledge of site layout
   - Knowledge of soil conditions
   - Knowledge of shoring for concrete
   - Knowledge of bracing and erection
   - Knowledge of earth-work
   - Knowledge of formwork for concrete
   - Knowledge of framing
   - Knowledge of scaffolding
   - Knowledge of trench safety
   - Knowledge of ground fault interruption
   - Knowledge of construction equipment
   - Knowledge of field log record keeping
   - Knowledge of fall protection
   - Knowledge of job site safety information requirements
   - Knowledge of other OSHA regulations

2. **Complying with other safety standards and practices**
   - Knowledge of asbestos
   - Knowledge of lead paint
   - Knowledge of hazardous waste disposal
   - Knowledge of mold remediation

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### Content Area G

**Reading Plans and Specifications**

1. **Reading construction documents**
   - Ability to read and understand plans and drawings (e.g., knowledge of sections and views)
   - Basic math skills and calculations associated with reading construction drawings
   - Knowledge of architectural and engineering symbols, tables, and specifications
   - Interpreting Shop drawings and submittals

2. **Interpreting construction codes and standards**
   - Ability to read, understand, and apply codes and standards including building codes
   - Knowledge of ADA requirements