



STUDY GUIDE
For the
General Consultant Knowledge (GCK) EXAM

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GCK EXAM STUDY GUIDE

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STUDY GUIDE GENERAL CONSULTANT KNOWLEDGE EXAMINATION

INTRODUCTION

The General Consultant Knowledge (GCK) exam tests knowledge common to all components of the building envelope (roofing, waterproofing and exterior walls). This concept was designed to produce a more efficient testing process, eliminating the same information being tested for each consultant designation.

This exam is available online. An applicant must pass the general exam as well as the Registered Roof Consultant (RRC[®]) exam to earn the RRC designation, the Registered Waterproofing Consultant (RWC[®]) exam to earn the RWC designation, or the Registered Exterior Wall Consultant (REWC[®]) exam to earn the REWC designation. If an applicant already holds a consultant designation and wishes to apply for another, the applicant is exempt from taking the GCK exam.

If only one of the two exams is passed (the general or the technical), the candidate will be required to retake only the exam he or she failed. The exam that has been passed will be valid until the candidate passes the other exam and the first consultant designation is earned. Candidates who do not pass an exam will have the option to retest every four months.

There is no separate application for the GCK Exam. Currently, approval of the RRC or RWC applications will qualify the applicant to take the general exam. A registration form for the exam will be sent to the candidate upon approval of the respective application.

This study guide outlines subjects that are addressed in the written examination; however, it is not intended to be an inclusive listing of every topic addressed on the test. This document is strictly a guide. The references most frequently used in the development of this exam are provided.

The GCK examination is four hours long and consists of 90 multiple-choice questions that test knowledge in the following consulting areas: ethics, general skills, communications and reports, codes and standards, design process, procurement process, agreements, and construction administration.

The fee for any online exam is \$250 for IIBEC members and \$325 for nonmembers. Once registered, the candidate will be contacted by Scantron to schedule an exam at one of the 1,000 conveniently located computer-based testing centers.

Consult <https://www.scantron.com/test-site-cities/> for testing center locations.

Please contact Alec Jeffries, Senior Director of Membership and Registrations, at ajeffries@iibec.org with any questions.

A sample of documents/references that were used to develop the General Consultant Knowledge Exam is as follows:

References*

| | Title | Author | Publication Date |
|----|--|-----------------|---------------------------|
| 1 | AIA A101 | AIA | 2007 |
| 2 | AIA A701 | AIA | 1997 |
| 3 | AIA Document A201, General conditions of the Contract for Construction | AIA | 2007 |
| 4 | <i>CSI Project Delivery Practice Guide</i> | CSI | 2011 |
| 5 | <i>Project Resource Manual, CSI Manual of Practice</i> | CSI | 2005, 5th Edition |
| 6 | International Building Code | ICC | 2009 |
| 7 | 29 CFR 1926 OSHA Construction Industry Regulations | OSHA | 2012 |
| 8 | <i>Manual of Practice</i> | RCI (now IIBEC) | 2010 |
| 90 | <i>Professional Building Consulting Manual</i> | RCI (now IIBEC) | 2012 |
| 10 | <i>Architectural Sheet Metal Manual</i> | SMACNA | January 2012, 7th edition |

*Although many references were used in the development of the exam, those listed above represent the ones used most frequently.

As part of the exam process, the committee of subject matter experts systematically compiled a list of objectives that relate to the responsibilities, knowledge, and skills associated with acceptable performance within the consulting profession. This list provided the organizational framework for the exam and is attached below. The percentage of questions on the exam from each section is indicated.

| Sections | Section/Objective Title | Percentage of questions from section on exam |
|------------------|---|---|
| Section 1 | Ethics | 4.0 |
| Objective 1.1 | Describe consultants' professional limitations | |
| Objective 1.2 | Describe ethical responsibilities | |
| Section 2 | General Skills | 15.5 |
| Objective 2.1 | Identify safety requirements | |
| Objective 2.2 | Describe project management tasks | |
| Objective 2.3 | Describe common building envelope technical knowledge | |
| Section 3 | Communications and Reports | 8.0 |
| Objective 3.1 | Describe project communication processes | |
| Objective 3.2 | Describe report development | |
| Section 4 | Codes and Standards | 13.5 |
| Objective 4.1 | Identify applicable code requirements | |
| Objective 4.2 | Identify applicable industry standards | |
| Section 5 | Design Processes | 15.5 |
| Objective 5.1 | Describe preliminary and final design tasks | |
| Objective 5.2 | Describe contract documents | |
| Section 6 | Procurement Processes | 8.0 |
| Objective 6.1 | Describe the procurement (bid) process | |
| Section 7 | Agreements | 9.0 |
| Objective 7.1 | Describe construction agreements | |
| Objective 7.2 | Describe consultant agreements | |
| Section 8 | Construction Administration | 26.5 |
| Objective 8.1 | Describe contract award procedures | |
| Objective 8.2 | Describe the submittal process | |
| Objective 8.3 | Describe changes to work | |
| Objective 8.4 | Describe construction phase meetings and communications | |
| Objective 8.5 | Describe payment procedures | |
| Objective 8.6 | Describe field observations and quality assurance services | |
| Objective 8.7 | Describe contract close-out procedures | |
| | Total | 100% |

General Consultant Knowledge (GCK) Exam Sample Questions

Sample questions are provided from each section of the exam and are indicative of the types of questions you will experience. Answers have been provided at the end of the study guide. Partial credit is not given for one correct answer where two are required.

Ethics

1. You have recently passed your General Consultant Knowledge and Registered Roof Consultant Examinations.

Which task does your new credential qualify you to perform?

- A.** Analyze water leakage problems through a curtain wall system.
 - B.** Analyze failure of a membrane roofing system.
 - C.** Design repairs to an existing roofing system and underlying roof deck.
 - D.** Design repairs to an existing below-grade waterproofing system.
2. According to the *IIBEC Code of Ethics*, what is considered unethical?
- A.** Participating in the political process or contributing time/money to political campaigns
 - B.** Submitting competitive bids or price quotations where price is the sole selection consideration
 - C.** Offering a gift to a public official with the intent of influencing that person's judgment on a project
 - D.** Providing discounts, free services, or anything else of value to a cause you deem worthy
3. You have lunch with a consultant who has applied for a position at your company. After work, you notice that one of your coworkers, an IIBEC Professional member, has posted negative comments on a social media page about that consultant.

According to the IIBEC Code of Ethics, which two statements are true? (Choose two.)

- A.** This is a violation of the "General Obligations" section of the IIBEC Code of Ethics.
- B.** This is a violation of the "Obligations to the Public" section of the IIBEC Code of Ethics.
- C.** This is a violation of the "Obligations to the Client" section of the RCI Code of Ethics.
- D.** This is a violation of the "Obligations to the Profession and Building Industry" section of the IIBEC Code of Ethics.

General Skills

4. According to AIA A201 [CCDC 2], who is the person responsible for the prevention of accidents at the project job site?
- A.** The contractor's project superintendent
 - B.** The subcontractor's foreman
 - C.** The owner's site representative
 - D.** The government inspection agencies
5. You are asked by a contractor to inspect a building envelope system from a fixed scaffold platform that extends 8 feet above an adjacent roof area with no fall arrest provisions.
- According to OSHA, which two actions are appropriate? (Choose two.)
- A.** Install guardrails around the perimeter of the platform on which you are working.
 - B.** Install safety nets around the perimeter of the platform on which you are working.
 - C.** Erect suspended scaffolding since fixed scaffolding is not allowed on a roof.
 - D.** Use personal protection equipment meeting OSHA's requirements.
6. What is the advantage of the design/bid/build delivery method?
- A.** All participants are familiar with this approach.
 - B.** This is the most cost-effective delivery method.
 - C.** This method requires the least amount of documentation.
 - D.** This method is the most time-efficient.
7. Which two advantages does the design/build method of project delivery have for an owner, compared to a design/bid/build project? (Choose two.)
- A.** There is a single point of accountability for the owner.
 - B.** Product selections can be streamlined by sharing information on cost, availability, and performance between the contractor and the designer, which improves the overall schedule.
 - C.** The project requirements are defined wholly by the owner and are therefore not as detailed.
 - D.** The presence of a contractual agreement between the contractor and designer results in the designer having a higher level of service to the owner.

8. You determine that a sealant joint in a building envelope system must accommodate a total movement of 0.2 inch [5 mm]. The architect has designed the sealant joint to be $\frac{3}{4}$ inch [19 mm] wide and specified a construction tolerance of $\frac{1}{8}$ inch [3 mm] for the joint width. The architect also specified that the sealant material should meet the ASTM C920 [CGSB 19.13] standard.

What is the minimum class of sealant that you should recommend?

- A. Class 25 [Class 25]
 - B. Class 35 [Class 40]
 - C. Class 50 [Class 50]
 - D. Class 100/50 [Class 100/50]
9. Which statement defines friability?
- A. An increase in material length due to the application of a force.
 - B. The loss of flexibility, elasticity, or ductility of a material.
 - C. The relative ability of a material to support combustion in its original state.
 - D. The tendency of a material to easily break into small pieces.

Communications and Reports

10. You are asked to submit a proposal for a building envelope condition assessment.

Which two questions should you consider prior to submitting your proposal? (Choose two.)

- A. What is the owner's available budget for this assessment?
 - B. What are the client's goals including facility use and budget constraints?
 - C. What is the availability of your qualified personnel?
 - D. What is the cash flow position and tax situation of your company?
11. A new client approaches your firm regarding a building with ongoing water infiltration issues. Your firm has been retained to prepare an investigative report to determine the extent of the issue and damage to the building.
- According to the *RCI (now IIBEC) Manual of Practice*, what would be the initial step of the investigation?
- A. Perform in-situ testing to determine the extent of the issues.
 - B. Perform field investigation to survey the existing conditions.
 - C. Determine the need for engineering consultants of other disciplines.
 - D. Obtain and review all historical data available for the building.

12. An attorney asks you to prepare an affidavit to be used in legal proceedings.

What information do you include in the affidavit?

- A.** Statements that the attorney client has written to win the case at trial, with some of your factual information
- B.** The facts about your involvement, your conclusions, recommendations, and opinions, in your own words
- C.** The facts as you know them with the attorney's written conclusions, including legal arguments
- D.** Only the facts that support your opinions written in your own words

Codes and Standards

13. Who approves alternative materials, designs, and methods not specifically addressed in the code, if they comply with the intent of the provisions of the code?

- A.** ICC [NBCC]
- B.** Owner
- C.** Licensed design professional
- D.** Code official

14. When do the requirements of the International Energy Conservation Code (IECC) apply to a specific building?

- A.** Upon publication of the latest version of IECC
- B.** After adoption of the International Building Code (IBC) by the jurisdiction
- C.** After adoption of the International Code Council (ICC) by the jurisdiction
- D.** Only when required specifically for the building by the building official

15. Your client asks you to evaluate a particular building envelope component for compliance with industry standards.

Which sources would you include in your research?

- A.** Applicable building code for workmanship standards
- B.** Contractor close-out documents for warranty information
- C.** Manufacturer association standards for materials and workmanship
- D.** Project manual for original construction

16. What are two types of standards published by ASTM? (Choose two.)
- A.** Product identification
 - B.** Testing protocols
 - C.** Material specifications
 - D.** Life cycle analysis

Design Processes

17. You are involved in a building envelope design project and must determine whether a proposed product is sustainable for a 50-year period.
- What should you do?
- A.** Prepare a conceptual design.
 - B.** Prepare a life cycle assessment.
 - C.** Prepare a value engineering study.
 - D.** Prepare a schematic design.
18. What are two primary considerations for a consultant when making product selections? (Choose two.)
- A.** Length of warranty
 - B.** Product performance data
 - C.** Building code approval
 - D.** Contractor preference
19. Which two divisions of the CSI MasterFormat [CSC NMS] contain most of the specifications for building envelope elements? (Choose two.)
- A.** Division 6
 - B.** Division 7
 - C.** Division 8
 - D.** Division 9

20. You are specifying a polyethylene plastic vapor retarder for a masonry exterior wall project. In which division of the project manual should the vapor retarder specifications be included?
- A.** Division 04 - Masonry
 - B.** Division 06 - Wood, Plastics, and Composites
 - C.** Division 07 - Thermal and Moisture Protection
 - D.** Division 13 - Special Construction
21. A contractor finds a discrepancy between contract plans and specifications. The contractor asks for guidance from the architect about which contract documents take precedence. Which AIA [CCDC or RAIC] document should the contractor and architect use to determine the precedence of documents?
- A.** AIA A201 [CCDC 2]
 - B.** AIA A101 [CCDC 9A]
 - C.** AIA B104 [RAIC Document 6]
 - D.** AIA A401 [RAIC Document 9]

Procurement Processes

22. A private owner wants to seek bids from only qualified contractors. According to the *CSI Manual of Practice*, how should the owner notify prospective bidders of the project?
- A.** Advertisement for bids
 - B.** Invitation to bid
 - C.** Contract to bid
 - D.** Proposal to bid
23. Which two statements are accurate about bidding documents? (Choose two.)
- A.** The bidding documents are the same as the contract documents
 - B.** The bidding documents include the bidding requirements and the proposed contract documents.
 - C.** Addenda are issued by the design professional after the execution of the contract.
 - D.** Addenda modify or interpret the bidding documents.

Agreements

24. A design is prepared by an architect under contract with an owner. The design is put out for competitive bid and awarded to a contractor.

Which project delivery method does this describe?

- A.** Design/build
- B.** Design/bid/build
- C.** Design/negotiate/build
- D.** Owner/build

25. Unless otherwise provided in the contract documents, according to AIA 201 [CCDC 2], who is responsible for securing and paying for permits and inspection fees?

- A.** Architect
- B.** Contractor
- C.** Owner
- D.** Subcontractor

26. During the construction phase, the architect finds work that is not in compliance with the contract documents.

According to AIA B107 [CCDC 2], what does the architect have the authority to do?

- A.** Accept the work.
- B.** Stop the work.
- C.** Make modifications to the work.
- D.** Reject the work.

27. The general contractor notices a minor variation will be required in the work. The contractor notifies the architect and the architect issues supplemental instructions.

According to the *CSI Manual of Practice*, whose signature is required?

- A.** Owner
- B.** Architect
- C.** Contractor
- D.** Tenant

Construction Administration

28. Which statement describes the intent of value engineering?
- A.** Providing the owner the lowest cost for the project
 - B.** Providing the engineer an opportunity to reduce design costs
 - C.** Providing the owner with cost-effective options that do not compromise the function of the project
 - D.** Providing the contractor an opportunity to use less-expensive products to save money
29. According to the *CSI Manual of Practice [CSC Manual of Practice]*, which two statements are true about a Notice to Proceed [Letter of Intent]? (Choose two.)
- A.** It lists the date that work is authorized to commence.
 - B.** It specifies the scope of work in detail.
 - C.** It is issued and signed by the project designer.
 - D.** It is addressed to the contractor.
30. What should the consultant's review of a contractor's shop drawings include?
- A.** General compliance with intent-of-contract documents
 - B.** General compliance with contract documents as related to existing dimensions
 - C.** General compliance with contract documents and associated systems previously approved
 - D.** General compliance with contract documents and associated details previously approved
31. An itemized schedule of values for a construction project should be submitted to which entity and when?
- A.** To the owner for review and approval with the first payment application
 - B.** To the architect for review and approval prior to the first payment application
 - C.** To the architect for review and approval 30 days prior to the first payment application
 - D.** To the architect for review and approval with the first payment application

32. During the procurement stage, site visits were conducted to familiarize the bidders with the existing conditions listed in the contract documents. After the contract was awarded, the contractor notices an existing condition that was not taken into account when preparing its bid.

According to the *CSI Manual of Practice*, what should the contractor do first?

- A.** Continue with the work.
 - B.** Submit a change order.
 - C.** Inform the architect by letter.
 - D.** Stop all work.
33. According to AIA A201 [*RAIC Canadian Handbook of Practice*], which statement is true about minor changes in the work?
- A.** The changes may affect contract time but not contract sum.
 - B.** The design professional has authority to direct minor changes if no changes to contract time or contract sum are involved.
 - C.** The changes may affect contract sum but not contract time.
 - D.** The contractor has the authority to change if no changes to contract time or contract sum are involved.
34. What is an objective of meeting minutes?
- A.** To document interpretations of contract documents
 - B.** To document quantity of work performed in a unit price basis
 - C.** To document actions required by each party
 - D.** To document discrepancies found by the contractor in construction documents
35. Regarding progress payments for a unit price contract, according to the *CSI Manual of Practice*, which term means verifying the quantities of work?
- A.** Stipulated sum
 - B.** Payment
 - C.** Measurement
 - D.** Certify

36. A \$50,000 project is expected to span a period of several months and will require progress payments. The contractor is required to submit a schedule of values to the architect for review. The schedule of values' first line item is \$20,000 for mobilization.

According to the *CSI Manual of Practice*, what is this practice called?

- A. Unit price
- B. Stipulated sum
- C. Provisional payment
- D. Front-end loading

37. During the construction phase of the project, the architect is responsible for being generally familiar with the progress of the work.

According to the *CSI Manual of Practice*, what is the term used to accomplish this task?

- A. Inspection
- B. Observation
- C. Visitation
- D. Certification

38. You are providing construction administration services on a construction project. You observe conditions in the work that do not conform with the contract documents. If left uncorrected, the observed conditions could result in damage.

Which two responses are appropriate for you to take regarding the nonconforming work? (Choose two.)

- A. Immediately reject the nonconforming work.
- B. Document the nonconforming work in a field observation report.
- C. Order the contractor to stop work.
- D. Reject the contractor's pay application that includes the nonconforming work.

39. Upon reaching substantial completion, a list is prepared documenting all items to be completed or corrected.

Who prepares the initial list?

A. Contractor

B. Owner

C. Architect

D. Consultant

40. What is the start date required for the warranties of systems?

A. The date that the contractor and manufacturer are paid in full

B. The date of final completion

C. The date of substantial completion

D. The date the pre-final is complete for that system

Answers to Sample Questions

Note your answers. Review the appropriate document(s) in those areas to better understand the rationale behind the indicated correct answer.

IIBEC's Professional Building Envelope Consulting course is recommended to those taking this exam.

- | | |
|----------------------|----------------------|
| 1. B | 21. A |
| 2. C | 22. B |
| 3. B & D | 23. B & D |
| 4. A | 24. B |
| 5. A & B | 25. B |
| 6. A | 26. D |
| 7. A & B | 27. B |
| 8. B | 28. C |
| 9. D | 29. A & D |
| 10. B & C | 30. A |
| 11. D | 31. B |
| 12. B | 32. C |
| 13. D | 33. B |
| 14. B | 34. C |
| 15. C | 35. C |
| 16. B & C | 36. D |
| 17. B | 37. B |
| 18. B & C | 38. A & B |
| 19. B & C | 39. A |
| 20. C | 40. C |