



CERTIFICATION PROGRAM

Fire Inspector I

Candidate Handbook



This Fire Inspector I Candidate Handbook contains important program information along with the following documents:

- Candidate Application Form
- Examination Retest Form
- Recertification Form

Please carefully review this handbook and retain it for reference





CANDIDATE HANDBOOK - CERTIFIED FIRE INSPECTOR-I

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NFPA's MISSION

Our vision: We are the leading global advocate for the elimination of death, injury, property and economic loss due to fire, electrical and related hazards.

Our mission: To help save lives and reduce loss with information, knowledge and passion.

MISSION OF NFPA CERTIFICATION PROGRAMS

The overall mission of NFPA's Certification Program is to enhance human and organizational performance as related to the use and application of NFPA codes and standards.

FIRE INSPECTOR CERTIFICATION PROGRAM

The NFPA Fire Inspector Certification Program was created in response to repeated requests by local entities, state agencies, and national organizations for certification programs founded on the *NFPA 1031, Standard for Professional Qualifications for Fire Inspector and Plan Examiner*, and other applicable NFPA codes and standards. These requests suggested that NFPA be the main catalyst and ultimate certifying body for such programs. In late 1996, an independent organization conducted research that validated this need, and in 1998 the current fire inspector I certification program became operational.

PRO BOARD ACCREDITATION

NFPA received its Pro Board accreditation on April 1, 2015. CFI-I, CFI-II, and CFPE certifications are now recognized by the Pro Board. Those candidates taking the NFPA exam after April 1, 2015, will be entered into the Pro Board registry and receive a certificate with both the NFPA and Pro Board seals.

CFI-I PROGRAM GOALS:

- Enhance professionalism within the fire inspection community
- Ensure a uniform, fair process for certification that is accessible to everyone who is eligible
- Ensure proficiency in the use of codes and standards
- Facilitate success for those seeking certification
- Promote professional development through continuous learning
- Recognize and provide evidence of competence as related to *NFPA 1031, Standard for Professional Qualifications for Fire Inspector and Plan Examiner*

FEATURES & BENEFITS

CFI-I credential holders receive the following benefits:

- A Pro Board recognized certification
- Recognition as an expert by your colleagues
- Greater confidence in your abilities
- Improved job performance
- Career advancement opportunities

Certificate holders also receive a NFPA / Pro Board CFI-I certificate, and lapel pin that further highlights their accomplishment.

ELIGIBILITY

A candidate for the CFI-I certification must have a high school diploma or the equivalent before being allowed to sit for the exam.

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APPLICATIONS & FORMS

All CFI-I applications including the program application, and retest application can be found online at www.nfpa.org/cfi.

APPLICATION ACCEPTANCE

An application is accepted only when both the completed and signed application is received by NFPA, and when the examination fee has been processed.

Important: When emailing this application to NFPA, you must use the NFPA secure email server at <https://web1.zixmail.net/s/welcome.jsp?b=nfpa>. Once you access this server and create your NFPA secure email account, you should select OTHER from the "To" pull-down list, and then enter adminsvecs@nfpa.org in the address box. Complete the email process by attaching your personal documentation and clicking "Send."

Following the receipt of your CFI-I application form and exam fee, the NFPA will send you an authorization letter with instructions on how to schedule your computer based exam. A list of test center locations may be found at www.isoqualitytesting.com. For NFPA CFI-I seminar attendees, the paper and pencil exam takes place the day after the seminar concludes.

PROGRAM FEES

\$350 USD for the initial exam. \$150 USD to recertify at the end of each three (3) year certification period. The most up to date fee schedule may be found on the applicable forms at www.nfpa.org/cfi.

VETERANS AFFAIRS BENEFITS

The U.S. Department of Veterans Affairs (VA) has approved the CFI-I certification program for reimbursement of exam fees. Contact your local veterans' affairs office for details.

NON-DISCRIMINATION

NFPA evaluates all CFI-I candidates without regard to race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, or family/parental status.

SPECIAL ACCOMMODATIONS

NFPA provides special accommodations in accordance with the Americans with Disabilities Act of 1991 (ADA). If a disability prevents you from taking the exam under standard conditions, you may request special accommodations. Written requests explaining the nature of the disability (i.e., the diagnosis), the type of accommodation you feel is appropriate, and supporting documentation of the diagnosis from a qualified healthcare professional must accompany the registration application. NFPA reserves the right to request reasonable documentation from healthcare or other professionals to support requests for special accommodations.

STEPS TO CERTIFICATION

- **Step 1 – Application** – Submit your application online at <https://www.nfpa.org/adminsvcs>, using a credit card or mail your application with a check to the address on the application form.

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- **Step 2 - Case Studies** - Once your application has been accepted, it is recommended that you complete a minimum of two of the case studies in this candidate handbook. The case studies are designed to prepare you for the exam. While not mandatory, the case studies will help you assess your readiness to sit for the exam. The defined responses are for self-evaluation according to the following parameters: correct application of the standards; case study analysis; and calculations.
- **Step 3 - Exam** - You will have to sit for the exam within four months of entering the CFI-I program. If you fail your exam, you are permitted to retest two (2) additional times (*completing a retest application and paying a retest fee each time*) within twelve (12) months from the day your original CFI-I application was accepted. If you fail the exam three (3) times within this period, you must wait until the twelve (12) month testing period expires before you will be allowed to restart the registration process.
- **Step 4 - Practicum** - Complete the required CFI-I practicum and submit the required practicum verification forms to NFPA within twelve (12) months from the day your original CFI-I application was accepted. For those candidates working with a partnering agency, please submit practicum verification forms to your program administrator.

REFERENCE MATERIALS

It is the candidate's responsibility to obtain materials needed for study purposes and to have present during the exam. The following list contains resources that may be used in preparing for and taking the exam. All exam questions are compatible with these code sets. Please verify which set you require, with your jurisdiction or certification partnership agency.

2015 NFPA Code Set:

- NFPA 1, Fire Code - 2015 Ed.
- NFPA 13, Installation of Sprinkler Systems - 2013 Ed.
- NFPA 25, Standard for the ITM of Water-Based Fire Protection Systems - 2014 Ed.
- NFPA 72, National Fire Alarm Code® - 2013 Ed.
- NFPA 101®, Life Safety Code® - 2015 Ed.

2018 NFPA Code Set:

- NFPA 1, Fire Code - 2018 Ed.
- NFPA 13, Installation of Sprinkler Systems - 2016 Ed.
- NFPA 25, Standard for the ITM of Water-Based Fire Protection Systems - 2017 Ed.
- NFPA 72, National Fire Alarm Code® - 2016 Ed.
- NFPA 101®, Life Safety Code® - 2018 Ed.

These NFPA codes and standards have been conveniently packaged into reference sets and are available for people registering for the CFI-I exam at a discounted price, only through NFPA Admin. & Support Services. Refer to the CFI-I application form to order these references.

IFSTA Fire Inspection and Code Enforcement Manual, 8th Edition.

A portion of the exam questions are based on content found in the *IFSTA Fire Inspection and Code Enforcement Manual, 8th Edition*. This publication may be purchased on the International Fire Service Training Association's website at www.ifsta.org.

EXAM PREPARATION

The NFPA CFI-I exam is based on the job performance requirements for the fire inspector I level that are defined in chapter 4 of the 2014 Edition of *NFPA 1031, Standard for Professional Qualification for Fire Inspector and Plans Examiner*. (See NFPA 1031 requirements section.)

Review Reference Materials - It is not necessary to memorize the reference materials, but it is important to know what content is found in each of the referenced NFPA documents. For example, *NFPA 1, Fire Code*, covers all aspects of fire protection and prevention utilized in other NFPA codes and standards. Know the general format of the NFPA documents. Each NFPA document is laid out in the same way and divided into similar sections, beginning with administration and definitions, followed by the specific requirements in the code. Also, look for tables in the documents that summarize requirements. These tips will help you find specific information quickly during the exam.

Case Studies - The case studies help guide the candidate through solving a problem by researching a code. The ability to look at a question or problem related to a code issue, identify the relevant code or standard, and then locate the correct answer is one of the most essential skills a fire inspector must develop. Try the activity on your own, and then look at the solution (defined responses) that is provided to see if you are on track. Follow the path through the codes until you can see how the problem was addressed and answered. During the exam, understanding this process will help you to identify the issue, and use code documents to answer the questions.

Sample Questions – The Exam Study Guide contains a number of sample questions to help you become familiar with similar types of questions found on the exam. The answers to the sample questions can be found on the last page of the section.

Sample Question - What is the occupant load factor used for determining the required means of egress for an existing business occupancy?

- (A) 20 sq ft (1.9 sq m)
- (B) 50 sq ft (4.6 sq m)
- (C) 100 sq ft (9.3 sq m)
- (D) 200 sq ft (18.6 sq m)

Analyze the Question - This is an occupancy question that deals with means of egress.

Find the right reference document – Means of egress provisions and other occupancy questions are addressed by *NFPA 101*[®], *Life Safety Code*[®].

Find the right reference – Chapter 7 deals with means of egress, and Table 7.3.1.2 lists occupant load factors

EXAM FORMATS

The exam is designed to evaluate the candidate's knowledge of fire inspection principles and code application skills at the level of fire inspector I (as defined in *NFPA 1031*). The exam is a four hour, 100 multiple-choice question, open-book exam. It is compatible with the 2015 and 2018 reference sets listed above. The exam is only available in English.

- **Computer Based Exam** - is available on demand at test centers throughout the world. Upon receipt of the application and test fee, the applicant will receive their authorization letter with instructions on how to schedule their computer-based exam. A list of test center locations may be found at www.isoqualitytesting.com

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- **Paper and Pencil Exam** - is available for candidates who attend NFPA's CFI-I seminar. The exam is held on the morning after the seminar concludes.

EXAM RULES AND PROCEDURES

The following policies and procedures pertain to every candidate taking the exam. Failure to comply will be grounds for dismissal from the exam location:

- You must present a valid photo ID.
- Smart phones and other electronic devices are not permitted in the testing area.
- You are permitted to use a silent, hand-held, battery-operated calculator. Calculator malfunction during a test does not constitute grounds for challenging test scores or requesting additional testing time.
- You will not be permitted to continue the test beyond the established four-hour time limit.
- You should bring only the approved, published and copyrighted documents identified in this handbook into the exam room. Photocopies of documents, additional pages with notations, and other test taking aids are not permitted. All materials taken into the exam room are subject to review by the proctor.
- Electronic versions of the NFPA documents are not permitted to be used at the test site.
- You may highlight, tab, and make notations within your NFPA documents prior to entering the exam room. Only commercial permanent adhesive type tabs are allowed. Post-it type notes and flags or other types of easily moveable tabs are **not** permitted. You may **not** write on, mark in, or tab the pages of your NFPA documents during the exam.
- If you wish to leave the room during the test, you must secure the proctor's permission. You will not be allowed to make up lost time.
- Visitors are not permitted at the testing location.
- Smoking is not permitted in the testing area.
- For the paper and pencil exam, bring three sharpened soft-lead (No. 2) pencils or mechanical pencils and a good eraser. Pencils and erasers will not be furnished.
- Candidates may provide comments on exam items. All comments will be reviewed by NFPA certification staff. Candidates will not receive responses to their comments. For computer-based exams, comments may be entered on the screen. For paper and pencil exams, comments may be submitted on a form available from the proctor.

EXAM CANCELLATION

If you must cancel your exam and you have no plan to reschedule that exam for another date (i.e. withdrawing from the program), you may be eligible for a partial refund of your application fee. In this situation, you must contact the NFPA certification administrative office (in writing) at least seven (7) business days (U.S. New York time) prior to your previously scheduled exam date. All refund requests must be made in writing and you will be assessed a \$50.00 USD non-refundable administrative fee. You will forfeit your entire application fee if you fail to contact the NFPA certification administrative office at least seven (7) business days (U.S. New York time) prior to your previously scheduled exam date. No application fees will be refunded if you fail to appear on your registered exam date. See Cancellation and Rescheduling Exceptions below.

CANCELATION AND RESCHEDULING EXCEPTIONS

NFPA may waive the rescheduling fee or cancellation penalties in the event of one of the following emergency or special circumstances:

- Jury duty
- Death of an immediate family member
- Military deployment
- Serious illness or injury

If you experience any of the above, you must provide appropriate documentation (doctor's note, military orders, death certificate or obituary, jury summons, etc.) to NFPA Admin. & Support Services (and ISO Quality Testing if you scheduled a computer-based test through them) before you will be allowed to reschedule your exam.

RESCHEDULING COMPUTER-BASED EXAMS

You may reschedule your computer-based exam for a different date and time by notifying the NFPA test delivery partner (ISO Quality Testing) at least five (5) calendar days (U.S. New York time) prior to your previously scheduled exam date. You will be assessed a \$25 rescheduling fee (IMPORTANT: See related computer-based exam rescheduling instructions located in your *ISO Quality Testing – Candidate Admission Letter*). You will forfeit your entire application fee if you fail to contact ISO Quality Testing at least five (5) business days (U.S. New York time) prior to your previously scheduled exam date. See Cancellation and Rescheduling Exceptions.

RESCHEDULING PAPER-BASED EXAMS

You may reschedule your paper-based exam for a different date, by notifying NFPA Admin. & Support Services in writing, at least seven (7) business days (U.S. New York time) prior to your previously scheduled exam date. All requests will be assessed a \$50.00 USD non-refundable rescheduling fee. You will forfeit your entire application fee if you fail to contact NFPA Admin. & Support Services within the aforementioned time period. **All rescheduled exams will be conducted as computer-based exams.** See Cancellation and Rescheduling Exceptions.

EXAM SECURITY

Failure to follow candidate instructions regarding exam security will result in your application being voided and forfeiture of your application fee. Conduct that results in violation of exam security or disrupts the administration of the exam could result in cancellation of your exam and dismissal from the testing center. In addition, your exam will be considered void and will not be scored.

Examples of misconduct include, but are not limited to, the following: writing on anything other than the margins of your test booklet, looking at another candidate's exam, or talking with other candidates anytime during the entire exam period. You are particularly cautioned not to do so after you have completed the exam, as other candidates in the area might be taking a break and still have not completed the exam. You may not attend the exam only to review or audit test materials. You may not copy any portion of the exam for any reason. No exam information may leave the test room under any circumstances. This includes memorizing questions for distribution to any other person. No unauthorized persons will be admitted into the testing area.

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It is very important for you to note all exam content is strictly confidential. You may only communicate about the test, or questions on the test, using the appropriate forms provided within the exam delivery system. At no other time, before, during or after the exam, may you communicate orally, electronically or in writing with any person or entity about the content of the exam or individual exam questions.

The NFPA shall have the right to revoke or invalidate any exam score with or without a finding of fault or misconduct if data forensic analysis or other credible evidence establishes a reasonable possibility that a score is not valid or the integrity or security of the exam was compromised.

COPYRIGHT

CFI-I exam questions are copyrighted by the NFPA. All rights reserved. Reproduction, distribution or display in any form or by any means, electronic, mechanical or otherwise, is strictly prohibited.

EXAM RESULTS

Computer based exams provide candidates with their results upon completion of the exam. For paper and pencil exams, the results are communicated to candidates by mail within 3 weeks of the exam date. Results are not provided via telephone.

The CFI-I exam is a pass/fail exam. Your actual number (%) exam score will never be reported to you for either a passing score or a failed score. If you pass the exam, you will only be told that you passed. If you fail the exam, you will be provided with a list of the exam domains and the percent (%) of items you answered correctly within each domain. Note: This is not your exam score – it is just a percent (%) correct value for each domain. This domain percent (%) correct information is provided so you may focus on areas of improvement for your retest. See the CFI-I exam weighted criteria table in the appendix section of this handbook for a listing of the exam domains.

RETEST

If you fail your exam, you are permitted to retest two additional times (completing a retest application and paying a retest fee each time) within 12 months from the day your original CFI-I application was accepted. If you fail the exam three times within this period, you must wait until the 12 month testing period expires before you will be allowed to restart the registration process. The retest application is found in the CFI-I candidate handbook as well as online at www.nfpa.org/cfi. The cost to retest is \$175 USD.

CONFIDENTIALITY

The identity and information concerning all candidates is confidential. Information regarding exam results are only communicated in writing from NFPA Admin. & Support Services directly to the candidate. Exam results are never provided over the phone.

PRACTICUM PHASE

After successfully completing the exam, candidates will need to complete the practicum phase of the program. The objective of the practicum phase is to provide the CFI-I candidate with an

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opportunity to demonstrate the application of the skills and knowledge that are used on the job through actual field inspections, and to satisfy any *NFPA 1031* JPR's that may not have appeared on the exam.

Successful completion of the practicum is a requirement for certification. Candidates have 6 months from passing the exam to complete and submit the practicum phase. The evaluation parameters are based on the requirements of chapter 4 in *NFPA 1031, Standard for Professional Qualifications for Fire Inspector and Plan Examiner*.

Procedures - Once the exam is successfully completed, the candidate will use the practicum phase exercises workbook that includes:

- 12 target occupancies
- Performance checklists
- Verification forms for submittal.

Seven of the 12 inspection exercises must be conducted, and their related performance checklists completed (2 mandatory and 5 elective). This is to ensure appropriate evaluations are conducted at each of the sites.

The candidate will check-off items identified in the performance checklist. Each verification form must be signed by either, (a) the building owner or property manager, or (b) a supervisor, fire chief, fire prevention officer, or partnering agency program administrator. The signatory of the verification forms is responsible for confirming the activities were completed. If option (b) is chosen, then a single individual must be designated prior to the practicum phase being undertaken, and this individual must sign all of the occupancy checklists.

Mandatory Activities - A site visit and performance checklist must be completed for each of the following:

- Sprinklered facility
- Commercial kitchen facility (in either a restaurant, school, or health care facility)

These different mandatory activities can be completed as part of a visit to one or more elective occupancies (see below) or at a separate facility. A separate verification form must be completed for each.

Elective Activities - Site visits, performance checklists, and verification forms must be completed for any five (5) of the following occupancy types:

- Educational occupancy (elementary school)
- Assembly occupancy (for 50 or more people)
- Apartment building with 16 or more units and two or more stories, or a motel/hotel with 20 or more guest rooms
- Mercantile occupancy between 3,000 and 12,000 sq. ft. (279 and 1,115 sq. m.) in area
- Business/office occupancy with 5,000 or less sq. ft. (465 sq. m.)
- Industrial/manufacturing occupancy between 5,000 and 30,000 sq. ft. (465 and 2,787 sq. m.) in area
- Maintenance shop (industrial occupancy)
- Hot work facility (industrial cutting, welding, grinding occupancy)

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- Storage occupancy (warehouse with noncombustible components on wood pallets)
- Health care occupancy (nursing home/limited-care facility)

Verification Forms - Once the practicum phase requirements have been fulfilled, the verification forms (located at the back of the workbook) should be sent directly to NFPA Admin. & Support Services for auditing – one for each inspection. The audit is to verify that the candidate performed the appropriate practical exercises. Once this audit is complete, and the other certification program requirements are met, then you will receive your certification by mail from NFPA. If the candidate entered the CFI-I program through a partnering agency, the seven verification forms should be sent to the partnering agency.

USE OF YOUR CFI-I CREDENTIAL

Once granted the CFI-I credential, the certified may refer to themselves as a CFI-I credential holder as long as the certified has an active certification status. The certified is authorized to use the CFI-I designation after their name on business cards, personal letterhead, resumes, websites and in their email signature.

RECERTIFICATION

Once a candidate has been certified as a fire inspector I, recertification every three years is required. In order to maintain currency and relevancy in the profession, CFI-I certification holders are required to demonstrate their continuing participation in professional development activities in the fire inspection field of practice.

NFPA awards points towards recertification for various activities. Sixty (60) points of professional development activities related to fire inspection must be earned and submitted during the 3-year recertification cycle. Certification holders are required to complete and return the Summary of Recertification Points Form attesting that they have 60 recertification points. Recertification forms are available at www.nfpa.org/cfi. Back up documentation is not required when submitting the Summary of Recertification Points Form.

Recertification Audit

Certification holders may be subject to a random audit of their CFI-I recertification documentation for a period of up to six (6) months after their recertification date. Accordingly, certification holders are expected to retain recertification documentation in their possession for six (6) months beyond their recertification date.

In order to recertify, the certificant must accumulate continuing education points. It is important that you begin accumulating the required points as soon as possible. All activities must be clearly related to the fire inspector field of practice. If college courses are declared for training hours, the same course cannot be taken twice within the 3-year period, and the candidate must convert credit hours to actual hours spent in the classroom.

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The certified must submit documented evidence of a total of 60 credit points from the following categories:

<u>Category</u>	<u>Allotment</u>	<u>Minimum Points</u>	<u>Maximum Points</u>
Training	One point per contact hour	Fifteen (15)	Sixty (60)
Teaching	Two points per contact hour	Zero (0)	Forty-five (45)
Professional Practice	½ point per hour of inspection	Zero (0)	Thirty (30)
Writing for Publication	Five points per article	Zero (0)	Fifteen (15)
Writing for Publication	Ten points per book	Zero (0)	Fifteen (15)
Association Membership	One point per membership per year	Zero (0)	Ten (10)

Documentation – Reasonable proof of attendance or participation in the described categories will be accepted. Reasonable includes:

- Course certificates (in person or online)
- Letters of attestation from course sponsors
- College transcripts
- Letters from employers
- Other evidence as required

RENEWAL

If NFPA does not receive the necessary recertification materials within the three year period, the certification holder will no longer be considered a certified fire inspector, and will no longer be entitled to use the CFI-I credential in professional communications. To regain certification, the candidate must successfully complete the entire CFI-I certification program (subject to the applicable application fees).

REPLACEMENT CERTIFICATES

Replacement certificates are available at a charge of \$15.00 per certificate by contacting NFPA Admin. & Support Services at adminsvcs@nfpa.org.

CONTACT INFORMATION

NFPA Admin. & Support Services
11 Tracy Drive
Avon, MA 02322

Email: adminsvcs@nfpa.org

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NFPA CFI-I Exam Weighted Criteria Table

The following table indicates the percentage (%) of exam content for the four major domains of the NFPA CFI-I exam. The domains and their sub-components are from the 2014 Edition of *NFPA 1031, Standard for Professional Qualifications for Fire Inspector and Plan Examiner*. This exam weighted criteria is in effect as of March 1, 2019.

- | | |
|--------------------------|------------|
| I. Administration | 25% |
|--------------------------|------------|
- A. Prepare inspection reports, given agency policy and procedures, and observations from an assigned field inspection, so that the report is clear and concise and reflects the findings of the inspection in accordance with the applicable codes and standards and the policies of the jurisdiction. (4.2.1)
 - i. (A) Requisite Knowledge. Applicable codes and standards adopted by the jurisdiction and policies of the jurisdiction.
 - ii. (B) Requisite Skills. The ability to conduct a field inspection, apply codes and standards, and communicate orally and in writing.
 - B. Recognize the need for a permit, given a situation or condition, so that requirements for permits are communicated in accordance with the applicable codes and standards and the policies of the jurisdiction. (4.2.2)
 - i. (A) Requisite Knowledge. Permit policies of the jurisdiction and the rationale for the permit.
 - ii. (B) Requisite Skills. The ability to communicate orally and in writing.
 - C. Recognize the need for plan review, given a situation or condition, so that requirements for plan reviews are communicated in accordance with the applicable codes and standards and the policies of the jurisdiction. (4.2.3)
 - i. (A) Requisite Knowledge. Plan review policies of the jurisdiction and the rationale for the plan review.
 - ii. (B) Requisite Skills. The ability to communicate orally and in writing.
 - D. Investigate common complaints, given a reported situation or condition, so that complaint information is recorded, the AHJ-approved process is initiated, and the complaint is resolved. (4.2.4)
 - i. (A) Requisite Knowledge. Applicable codes and standards adopted by the jurisdiction and policies of the jurisdiction.
 - ii. (B) Requisite Skills. The ability to apply codes and standards, communicate orally and in writing, recognize problems, and resolve complaints.
 - E. Identify the applicable code or standard, given a fire protection, fire prevention, or life safety issue, so that the applicable document, edition, and section are referenced. (4.2.5)
 - i. (A) Requisite Knowledge. Applicable codes and standards adopted by the jurisdiction.
 - ii. (B) Requisite Skills. The ability to apply codes and standards.
 - F. Participate in legal proceedings, given the findings of a field inspection or a complaint and consultation with legal counsel, so that all information is presented and the inspector's demeanor is professional. (4.2.6)
 - i. (A) Requisite Knowledge. The legal requirements pertaining to evidence rules in the legal system and types of legal proceedings.
 - ii. (B) Requisite Skills. The ability to maintain a professional courtroom demeanor, communicate, listen, and differentiate facts from opinions.

II. Fire Protection Systems & Equipment

30%

- A.** Determine the operational readiness of existing fixed fire suppression systems, given test documentation and field observations, so that the systems are in an operational state, maintenance is documented, and deficiencies are identified, documented, and reported in accordance with the applicable codes and standards and policies of the jurisdiction. (4.3.5)
 - i.** (A) Requisite Knowledge. A basic understanding of the components and operation of fixed fire suppression systems and applicable codes and standards.
 - ii.** (B) Requisite Skills. The ability to observe, make decisions, recognize problems, and read reports.
- B.** Determine the operational readiness of existing fire detection and alarm systems, given test documentation and field observations, so that the systems are in an operational state, maintenance is documented, and deficiencies are identified, documented and reported in accordance with the policies of the jurisdiction. (4.3.6)
 - i.** (A) Requisite Knowledge. A basic understanding of the components and operation of fire detection and alarm systems and devices and applicable codes and standards.
 - ii.** (B) Requisite Skills. The ability to observe, make decisions, recognize problems, and read reports.
- C.** Determine the operational readiness of existing portable fire extinguishers, given field observations and test documentation, so that the equipment is in an operational state, maintenance is documented, and deficiencies are identified, documented, and reported in accordance with the policies of the jurisdiction. (4.3.7)
 - i.** (A) Requisite Knowledge. A basic understanding of portable fire extinguishers, including their components and placement, and applicable codes and standards.
 - ii.** (B) Requisite Skills. The ability to observe, make decisions, recognize problems, and read reports.
- D.** Compare an approved plan to an existing fire protection system, given approved plans and field observations, so that any modification to the system are identified, documented, and reported in accordance with the applicable codes and standards and the policies of the jurisdiction. (4.3.9)
 - i.** (A) Requisite Knowledge. Fire protection symbols and terminology.
 - ii.** (B) Requisite Skills. The ability to read and comprehend plans for fire protection systems, observe, communicate, apply codes and standards, recognize problems, and make decisions.
- E.** Verify fire flows for a site, given fire flow test results and water supply data, so that required fire flows are in accordance with applicable codes and standards and deficiencies are identified, documented, and reported in accordance with the applicable codes and standards and the policies of the jurisdiction (4.3.16)
 - i.** (A) Requisite Knowledge. Types of water distribution systems and other water sources in the local community, water distribution system testing, characteristics of public and private water supply systems, and flow testing procedures.
 - ii.** (B) Requisite Skills. The ability to use Pitot tubes, gauges, and other data gathering devices as well as calculate and graph fire flow results.

III Storage, Handling, & Use of Hazardous Substances and Materials

15%

- A.** Recognize hazardous conditions involving equipment, processes, and operations, given field observations, so that the equipment, processes, or operations are conducted and maintained in accordance with the applicable codes and standards and deficiencies are identified, documented, and reported in accordance with the applicable codes and standards and the policies of the jurisdiction. (4.3.8)

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- D.** Verify the type of construction for an addition or remodeling project, given field observations or a description of the project and the materials being used, so that the construction type is identified and recorded in accordance with the applicable codes and standards and the policies of the jurisdiction. (4.3.4)
 - i.** (A) Requisite Knowledge. Applicable codes and standards adopted by the jurisdiction, types of construction, rated construction components, and accepted building construction methods and materials.
 - ii.** (B) Requisite Skills. The ability to read plans, make decisions, and apply codes and standards.
- E.** Verify that emergency planning and preparedness measures are in place and have been practiced, given field observations, copies of emergency plans, and records of exercises, so that plans are prepared and exercises have been performed in accordance with applicable codes and standards and deficiencies are identified, documented, and reported in accordance with the applicable codes and standards and the policies of the jurisdiction. (4.3.10)
 - i.** (A) Requisite Knowledge. Requirements relative to emergency evacuation drills that are required within the jurisdiction, ways to conduct and/or evaluate fire drills in various occupancies, and human behavior during fires and other emergencies.
 - ii.** (B) Requisite Skills. The ability to identify the emergency evacuation requirements contained in the applicable codes and standards and interpret plans and reports.
- F.** Inspect emergency access for an existing site, given field observations, so that the required access for emergency responders is maintained and deficiencies are identified, documented, and corrected in accordance with the applicable codes and standards, and policies of the jurisdiction. (4.3.11)
 - i.** (A) Requisite Knowledge. Applicable codes and standards, the policies of the jurisdiction, and emergency access and accessibility requirements.
 - ii.** (B) Requisite Skills. The ability to identify the emergency access requirements contained in the applicable codes and standards, observe, make decisions, and use measuring tools.
- G.** Recognize a hazardous fire growth potential in a building or space, given field observations, so that the hazardous conditions are identified, documented, and reported in accordance with the applicable codes and standards and the policies of the jurisdiction. (4.3.14)
 - i.** (A) Requisite Knowledge. Basic fire behavior; flame spread and smoke development ratings of contents, interior finishes, building construction elements, decorations, decorative materials, and furnishings; and safe housekeeping practices.
 - ii.** (B) Requisite Skills. The ability to observe, communicate, apply codes and standards, recognize hazardous conditions, and make decisions.
- H.** Determine code compliance, given the codes, standards, and policies of the jurisdiction and a fire protection issue, so that the applicable codes, standards, and policies are identified and compliance is determined. (4.3.15)
 - i.** (A) Requisite Knowledge. Basic fire behavior; flame spread and smoke development ratings of contents, interior finishes, building construction elements, life safety systems, decorations, decorative materials, and furnishings; and safe housekeeping practices.
 - ii.** (B) Requisite Skills. The ability to observe, communicate, apply codes and standards, recognize hazardous conditions, and make decisions.

CASE STUDIES FOR CERTIFIED FIRE INSPECTOR



Instructions

Following are four case studies. Choose at least two of these case studies, read them carefully, and respond to the questions at the end of each. You will have to use NFPA codes and standards to answer the questions, and you must obtain them for yourself. When you answer a question, refer to the code or standard edition and section numbers. Also, use your fire inspection and code enforcement experience. **You should complete this activity prior to taking the examination.**

The purpose of the case studies are to help you prepare for the examination and practicum phase. You will not be graded on your responses. Once you have answered all the questions for at least two of the case studies, you can use the case study defined responses in the candidate handbook to evaluate your answers. This is simply an answer sheet that provides a comprehensive and accurate analysis of the case studies. The defined responses were established by the NFPA Fire Inspector Certification Advisory Committee for this certification program.

If you did well in your analysis, then you should prepare for the examination by reviewing the publications identified in the list of references in the applicant handbook. If your responses were inaccurate, then spend extra time reviewing the topics where weaknesses were detected before moving to the examination study guide.

If you have questions, please contact your program administrator or the NFPA Certification Department.

CERTIFICATION FOR FIRE INSPECTOR I

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Case Study 4 ► PUBLIC ASSEMBLY

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Case Study 1

BICYCLE MANUFACTURING FACILITY

► You have been assigned an inspection of an existing facility that manufactures bicycles from parts acquired elsewhere. Your initial entry into the facility proceeds as planned with all of the introductions made and the procedures for your inspection explained.

During your inspection, you note the following items relative to the structure itself. In the warehouse, metal frames are stored in racks that are 8 ft (2.4 m) high. The bicycle seats are made primarily of foam rubber and plastic and are stored in boxes, to a height of 6 ft (1.8 m) in piles, boxes are stored on boxes. Within the boxes, each seat is individually wrapped in polyethylene bags. Assembled tires on wheels are stored on racks specially designed for the tire assemblies, to a height of 6 ft (1.8 m).

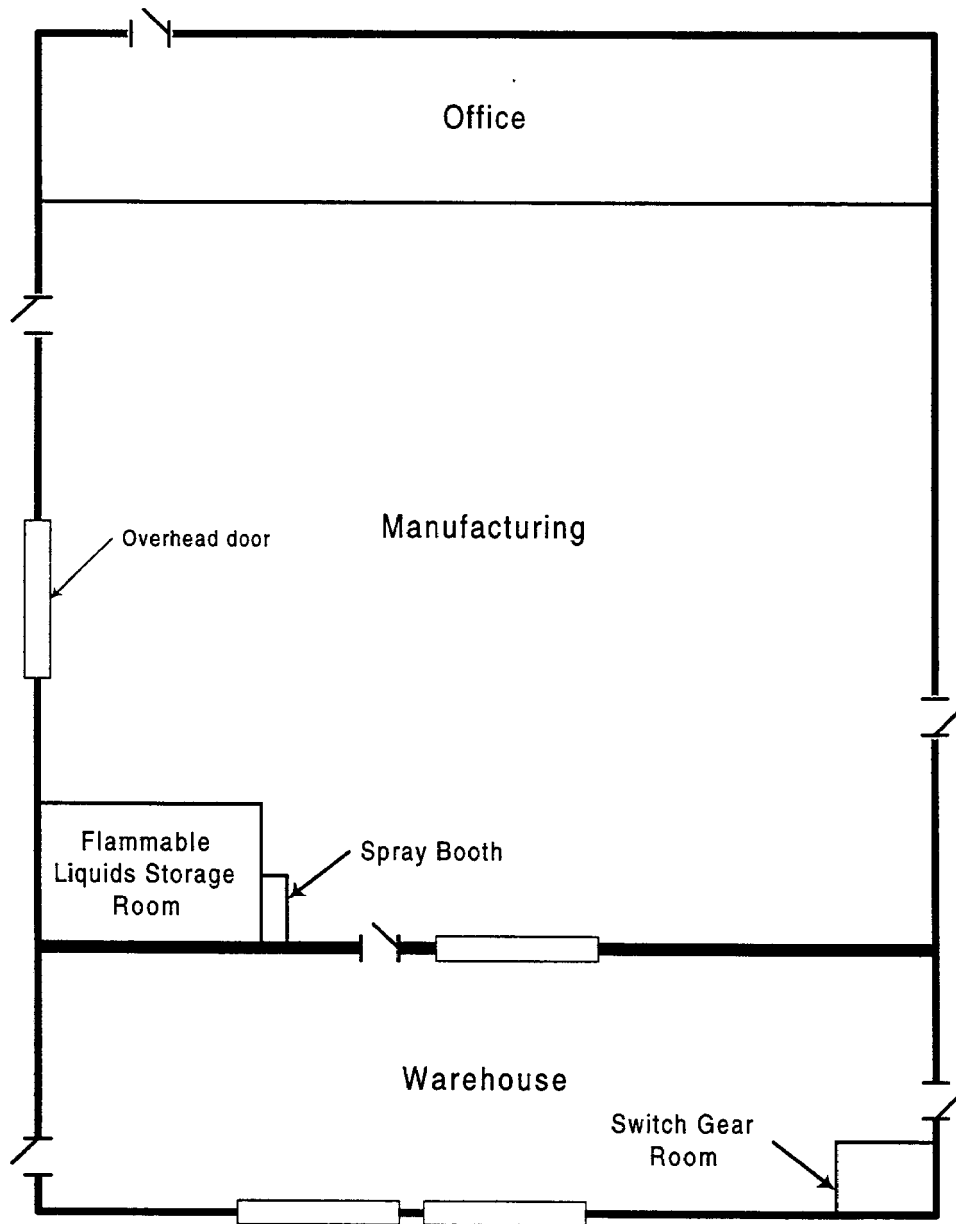
In the flammable liquids storage room, which is 20 ft x 20 ft (6.1 m x 6.1 m) and located in the corner of the manufacturing area, three 55-gallon (208 L) drums of paint of different colors are stored. This room also contains a number of 5-gallon (19 L) and 1-gallon (3.8 L) cans of paint and thinners on pallets, with no storage higher than 5 ft (1.5 m).

There is a “firewall” between the warehouse and manufacturing area. The building is a total of 36,000 sq ft (3,344 sq m) in area; this includes a 4,000 sq ft (372 sq m) office, a 12,000 sq ft (1,115 sq m) warehouse and a 20,000 sq ft (1,858 sq m) assembly area where the bikes are put together and packaged. Once packaged, the bikes are shipped to a distributor for sale.

Your inspection yields the following: The aisles in the area where the bikes are assembled are blocked to the point of being unidentifiable. In the warehouse, the aisles are blocked in some areas by parts storage.

All areas of the building are sprinklered. There is a fire alarm system in the building that monitors the sprinkler system, its control valves, and smoke detectors in the office building. There are a number of fire extinguishers scattered throughout the facility, of differing types. Fire doors exist in the wall between the office and manufacturing areas, and the manufacturing and warehouse areas.

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The flammable liquids storage room has been specially built to house those specific materials. Paint is handled in a touch-up area for the bike finishing, in small quantities. Rags and sponges, as well as paintbrushes, are used in this area. A small spray booth is also used in this area to touch up some of the frames.

The electrical service for the entire building comes into a 10 ft x 16 ft (3 m x 4.9 m) switchgear room. The room is also used for incidental storage of light bulbs in cardboard boxes and janitor's supplies. There are a number of uncovered circuit breaker panels and what appears to be temporary wiring in this room.

Seven people work in the warehouse, nine in the office, and 35 in the production assembly area.

QUESTIONS FOR ANALYSIS

► **In terms of the inspection details, please answer the following questions, citing specific code references with your answers.**

1. How many exits from the different areas of the facility should there be in this facility?

Related Code: _____

Answer: _____

2. What fire protection features should be present in the flammable liquids storage room, in terms of construction and protection?

Related Code:

Answer:

3. What types of fire alarm systems are acceptable for this facility?

Related Code:

Answer:

4. How many fire extinguishers should be located in this facility, if all aisles were open and all egress paths were clear?

Related Code:

Answer:

5. To determine the adequacy of the sprinkler systems in the office, warehouse, and production areas, what points need to be considered?

Related Code:

Answer:

6. The firewall between the warehouse and production area is a four-hour-rated wall, according to the information provided by the property owner. What points should be considered when evaluating or assessing the adequacy of this fire division?

Related Code:

Answer:

7. What fire protection features must be present in the small paint touch-up area?

Related Code:

Answer:

Case Study 2

APARTMENT BUILDING

► You are inspecting an existing two story noncombustible apartment building housing elderly residents, who receive personal care. The building is comprised of 18 units. On the second floor west side of the building there is an infirmary with non-ambulatory patients. The building has a complete fire alarm and sprinkler system, except in the attic. The infirmary has walls that terminate at the ceiling level, with a common interstitial space between the ceiling and the truss roof. There is 4-in. (10-cm) insulation above the ceiling tile.

As you inspect the building, you notice the housekeeping crew also doubles as the nurses' aides, so they leave the housekeeping carts in the hallway for emergency use. In checking the fire drill reports, you notice that fire drills are always conducted during the day shift, when the administration is on duty. You also notice the emergency generator is located in the boiler room and has not been checked since the last inspection.

When checking the laundry facility, you find that the top of the gas dryer is scorched and the dryer vent protrudes through the wall between the laundry and the physical therapy room, then runs exposed through the therapy room to an outside window.

QUESTIONS FOR ANALYSIS

► In terms of the inspection details, please answer the following questions, citing specific code references with your answers.

1. What code requirements exist for the walls in the infirmary?

Related Code:

Answer:

CERTIFICATION FOR FIRE INSPECTOR I

2. Are sprinklers needed in the attic? If so, what type?

Related Code:

Answer:

3. Can the housekeeping carts be allowed to be left in the hallway? If so, when?

Related Code:

Answer:

CERTIFICATION FOR FIRE INSPECTOR I

4. How often and at what times should drills be conducted?

Related Code:

Answer:

5. What should be the rating for all the doors? How would you verify the rating?

Related Code:

Answer:

CERTIFICATION FOR FIRE INSPECTOR I

6. Do all the apartment doors need to have closures?

Related Code:

Answer:

7. How wide should the doors be in the units?

Related Code:

Answer:

CERTIFICATION FOR FIRE INSPECTOR I

8. How wide should the hallways be?

Related Code:

Answer:

Case Study 3

AUTOMOTIVE SALES FACILITY

► This inspection will be conducted at an existing automotive sales facility. This facility sells new and used cars, and is a full service dealership. The sales area consists of a showroom and associated offices with limited storage for brochures and office supplies. There is a parts department, with parts on racks to only the height that they can be reached from the floor, about 7 ft. (2.1 m). The repair garage is in the back part of the building. The showroom is 15,000 sq. ft. (1,394 sq. m) in area, the parts department is 9,000 sq. ft. (836 sq. m), and the repair facility is 30,000 sq. ft (2,787 sq. m). There is a fire barrier, according to plans that have been made available, between the repair shop portion of the building and the rest of the facility.

No sprinkler system is found in this facility, but the building is equipped with an automatic fire alarm system connected to the community's emergency dispatch center. The building construction is all corrugated metal panels on a steel frame, with fiberglass bat insulation. Air handling units are on the roof, and the air conditioning is ducted into the building.

Your inspection yields the following: In the repair facility, a 10-drum dispensing rack is in the northeast corner. Three of the drums on the rack carry red diamond-shaped labels. There is a portable kerosene heater on the floor next to the drum rack, but it isn't operating. There is a gas-fired water heater on the floor in the corner of the repair shop. A new lift has been installed in the repair shop, and is located only 37 in. (94 cm) at its closest point from what appears to be an emergency exit. There is an opening in the wall between the parts department and the repair facility, through which parts are passed.

There is no body shop repair work done here, but there are small amounts of paint in aerosol cans in the parts department. The heating system is ducted through the fire barrier, so as to serve all of the areas. Fire extinguishers have been provided throughout the facility, although no inspection tags are attached.

QUESTIONS FOR ANALYSIS

► In terms of the inspection details, please answer the following questions, citing specific code references with your answers.

1. What classification of occupancy is this business?

Related Code: _____

Answer: _____

2. How many exits are required from each of the areas? What size should these be?

Related Code: _____

Answer: _____

3. What problems exist with the fire barriers?

Related Code:

Answer:

4. What are the number, location, and type of fire extinguishers that should be provided throughout the facility?

Related Code:

Answer:

CERTIFICATION FOR FIRE INSPECTOR I

5. Are there any indications that a problem exists with the heating equipment?

Related Code:

Answer:

6. What is the minimum acceptable distance between the automotive lift and the emergency exit?

Related Code:

Answer:

Case Study 4

PUBLIC ASSEMBLY

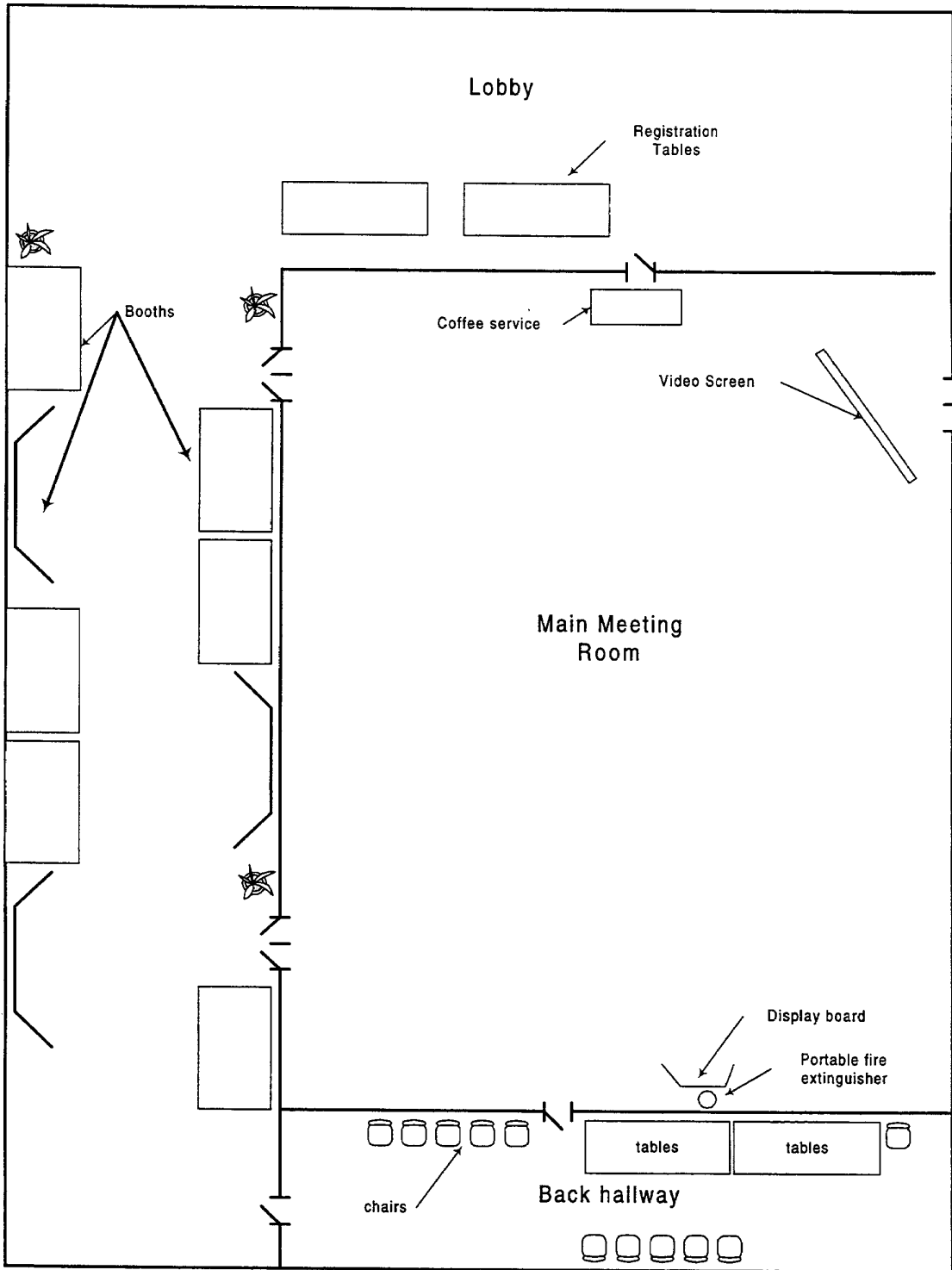
► You are inspecting meeting and conference rooms and a restaurant in an existing high-rise hotel. As you enter the lobby, you observe decorative sheets covering registration tables used for conference attendees. No one at the hotel can tell you if the sheets have been flame-retardant treated. As you enter the corridor leading to the meeting rooms, you note that a number of display booths have been placed in this passageway.

The passageway, originally designed to be 12 ft (3.7 m) wide, is reduced to 4.5 ft (1.4 m) due to the space taken by the booths. You enter the main meeting room, which is 100 ft by 200 ft (30.5 m x 61 m), set up for 400 attendees in seats with no tables, and you note coffee service has been set up in front of two clearly marked side exit doors.

A large video screen is positioned in front of two other fire exit doors at the front of the room. A display board obstructs access to a fire extinguisher positioned on the west wall. Aisle spacing for chairs is 22 in (56 cm).

You enter the back hallway where the meeting room exits and find numerous tables, chairs, and warming carts stored there. You enter the kitchen area, which serves both the restaurant and the conference facility, and note that the range hood system has no certification tag, the vent screen is very greasy, and the protective caps on the nozzles are missing. In the restaurant, you find that the panic hardware on the second exit is fitted with a chain and padlock, which are attached to an eyebolt on the wall.

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QUESTIONS FOR ANALYSIS

► In terms of the inspection details, please answer the following questions, citing specific code references with your answers.

1. What are the requirements for interior finish regarding the registration table covers?

Related Code: _____

Answer: _____

2. Is the passageway wide enough? Explain your answer.

Related Code: _____

Answer: _____

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3. How many exits are required from the meeting room? What deficiencies did you observe other than the number of exits? How wide should the doors be?

Related Code:

Answer:

4. Is the aisle spacing between chairs adequate? Why or why not?

Related Code:

Answer:

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5. Does the range hood system meet requirements? Explain your answer.

Related Code:

Answer:

6. Is a sprinkler system required in this building?

Related Code:

Answer:

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CASE STUDY DEFINED RESPONSES
FOR CERTIFIED FIRE INSPECTOR I



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BICYCLE MANUFACTURING FACILITY

References and Answers

QUESTION NUMBER	RELATED CODES	KEY POINTS
1	2015 & 2018 101: 7.4 101: 40.2.4 101: 42.2.4	<p><u>Exits from the facility</u></p> <ul style="list-style-type: none"> • Two exits required from each area • Additional exits may be required due to dead-ends and travel distance
2	2015 & 2018 1: 66.6.5.4.2 1: 66.9.12.2 1: 66.14.4 1: Table 66.9.9.1 1: 66.9.9.2 1: Table 66.9.9.2 1: 66.7 2015 & 2018 1: 66.18.6	<p><u>Flammable Liquids Storage Room</u></p> <ul style="list-style-type: none"> • Grounding & bonding facilities for storage drums • Drainage/holding facilities for a spill • Rated construction, with proper fire rating and matching fire doors • Classified electrical equipment • Low level ventilation <p>Comment: There is much “room” given to the Authority Having Jurisdiction (AHJ) in terms of additional protection requirements. Quantities and classification of liquids, aisle spacing, etc.</p>
3	2015 & 2018 101: 40.3.4 101: 42.3.4 72	<p><u>Fire Alarm</u></p> <ul style="list-style-type: none"> • Any alarm system outlined in NFPA 72 that is acceptable to the AHJ • Even though it isn’t required by the Life Safety Code, if an alarm system is provided, as in this example, it must conform to NFPA 72
4	2015 & 2018 1: Table 13.6.3.2.1.1 2015 & 2018 101: 39.3.5 2015 & 2018 1: 66.9.10.2	<p><u>Extinguishers</u></p> <p>Extinguishers must be provided on the basis of one unit for every 3,000-sq. ft. (279 sq. m.) of floor space. 2 extinguishers would be required in the office.</p> <p>1 minimum required in the flammable liquid storage area.</p> <p>Comments: these numbers may be subject to change based on travel distance.</p>

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QUESTION NUMBER	<u>RELATED CODES</u>	<u>KEY POINTS</u>
5	2013 & 2016 13: 5.2 13: 5.3.2	<p><u>Sprinkler System</u></p> <p>Although a sprinkler isn't required here, its presence means it must conform to NFPA 13.</p> <ul style="list-style-type: none"> • Points to consider are: <ul style="list-style-type: none"> ➤ Occupancy ➤ Construction ➤ Obstructions - due to such things as lights, A/C units and ductwork, storage, etc. ➤ Water Supply
6	Inspection Manual, Pg. 207 2015 & 2018 101: 7.1.9 1: 14.4.1 Inspection Manual, Pg. 194 2015 & 2018 101: 40.3 101: 42.3 101: 7.2.1.5.1	<p><u>Fire Division Points to Consider</u></p> <ul style="list-style-type: none"> • Are the doors in the wall of the proper rating and arranged to close automatically? • Are the doors in the wall obstructed? • Are there any unprotected openings in the wall? • What is the wall's fire rating? • Are the doors operable automatically from both sides?
7	2015 & 2018 1: 43.1.6.2 1: 43.1.6.2.1 to 3 1: 43.1.3 1: 43.1.5 1: 43.1.8	<p><u>Paint Touch-Up Area Points to Consider</u></p> <ul style="list-style-type: none"> • Are cabinets provided for the incidental storage of small amounts of paint? • Construction of the small spray booth • Ventilation through the booth • Control of hazards, i.e. smoking, rags, housekeeping, etc. <p>Additional Points:</p> <ul style="list-style-type: none"> • Common sense says that the exit ways being blocked is a problem. • There should be an emergency action plan in place as required by OSHA.

APARTMENT BUILDING

References and Answers

QUESTION NUMBER	<u>RELATED CODES</u>	<u>KEY POINTS</u>
1	2015 & 2018 101: 19.1.3.5.1	<p><u>Infirmary Walls</u></p> <ul style="list-style-type: none"> Two-hour rated separation between the Infirmary and the Residential board and care occupancy is required. <p>Solution: continue rated walls of infirmary to roof deck or to a rated ceiling.</p>
2	2013 & 2016 13: 8.15.1.2 2015 & 2018 101: 19.3.5 101: 19.1.1.4 101: 33.3.3.5.1	<p><u>Fire Sprinklers</u></p> <ul style="list-style-type: none"> Fire sprinklers are not required in the attic unless combustible construction material is present in the attic. NFPA 13 system is then required. NFPA 13R system is permitted in a residential board and care occupancy. <p>Solution: verify sprinkler design criteria and building construction type.</p>
3	2015 & 2018 101: 19.7.3 101: 7.1.10	<p><u>Housekeeping Carts in Hallway</u></p> <ul style="list-style-type: none"> Exit access cannot be blocked <p>Solution: No carts permitted to be stored in the hallway.</p>
4	2015 & 2018 101: 19.7.1 101: 4.7	<p><u>Fire Drills</u></p> <ul style="list-style-type: none"> Drills must be conducted six times per year with at least two held at night for the residential board and care occupancy. Drills shall be conducted quarterly on each shift in the infirmary.

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5

Doors

2015 & 2018
101: 33.3.3.6.6.3

- No rating required for doors in a fire sprinklered residential board and care occupancy

101: 8.3.4

- Doors in rated walls between residential board and care and infirmary must be at least 90 minute rated doors and frames.

2015 & 2018
101: 19.3.4.1

Inspection Manual,
Pg. 207

- Rating of doors located on label, usually on the inside edge of the door and the frame.

Solution: visual inspection of doors and frames

6

Door Closures

Inspection Manual,
Pg. 207

- All doors required to be fire rated must be self-closing.

2015 & 2018
101: 33.3.3.6.6.2

- No closures required on doors to living units or sleeping rooms in infirmary.

Solution: verify proper operation of closures on rated doors.

7

Door Widths

2015 & 2018
101: 19.2.3.6
101: 33.3.2.2.2
101: 7.2.1.2.1.1
101: 19.2.3.7

- Clear width of 32 inches (81 cm) required for doors from infirmary.

- Existing 34 inch (86 cm) wide doors permitted.

Solution: measure door width

8

Hallway Widths

2015 & 2018
101: 33.3.2.3.3

- Corridor width of 44 inches (112 cm) required in residential board and care occupancy.

101: 33.3.2.3.4

- Corridors serving less than 50 people may be 36-inch (91 cm) width minimum.

101: 19.2.3

- Corridor width of 48 inches (122 cm) required in infirmary.

Solution: measure corridor width.

AUTOMOTIVE SALES FACILITY

References and Answers

QUESTION NUMBER	RELATED CODES	KEY POINTS
1	2015 & 2018 101: 6.1.10 101: 6.1.12 101: 6.1.14.2.2	<u>Occupancy</u> Occupancy class is a mixed occupancy with a mercantile and industrial occupancy.
2	2015 & 2018 Table 7.3.1.2 101: 37.1.7 101: 37.2 Table 7.3.1.2 101: 40.1.7 101: 40.2 Table 7.3.1.2 101: 42.1.7 101: 7.2.1.2.3.2(3) 101: 42.2.4	<u>Exits from Each Area</u> <ul style="list-style-type: none"> • The occupancy load calculated for a mercantile area – the showroom - is 15,000 sq. ft. (1,394 sq. m.): Thus, $15,000/30 = 500 \times 0.2 = 100$ inches (254 cm) exit capacity from the first floor showroom. • The room could be outfitted with exit doors of varying sizes to equal 100 inches (254 cm). • The repair area is 30,000 sq. ft. (2,787 sq. m.). Consider this to be a shop type occupancy. Thus, $30,000/50 = 600 \times 0.2 = 120$ inches (305 cm) capacity of discharge from the first floor shop. • The parts area is 9,000 sq. ft. (836 sq m). Consider this to be a storage/shipping area with the occupant load being determined by the actual number anticipated. In most cases, the minimum 28 in. (71 cm) door is adequate. • NFPA 101 requires a minimum of 2 exits per area, with a minimum clear width of opening of 34 in. (86 cm). • Therefore, all of the areas need to have at least two exits.
3	2015 & 2018 101: 6.1.14.4.1 101: 6.2.1.3	<u>Fire Barriers</u> <ul style="list-style-type: none"> • 2-hour separation required between sales, repair and service. • Points to consider: <ul style="list-style-type: none"> ➤ Is a fire door needed? ➤ Is the wall itself a fire division of any substance? ➤ Are there other openings such as pipeways and ducts that go through the wall?

4

Fire Extinguishers

2015 & 2018
1: 13.6.1.2
1: 13.6.3
2015 & 2018
101: 39.3.5
1: 13.6

- One extinguisher needs to be in place for every 3,000 sq. ft. (279 sq m), with a travel distance of no greater than 75 feet (23 m) between extinguishers.
- 5 extinguishers are needed in the showroom. Business occupancy classified as ordinary hazard.

2015 & 2018
1: Table 13.6.3.3

- 10 extinguishers are needed in the repair area. Maximum travel distance no more than 30 ft (9 m) to a 40 B fire extinguisher. Repair facility classified as extra hazard.

2015 & 2018
1: 13.6.1.2
1: 13.6.3

- 3 extinguishers are needed in the parts department.

Comments: Additional units may be necessary based on travel distance. The type must match the hazards - for example, the hazards in the repair shop probably will involve combustible liquids (oil) and should be B:C type or A:B:C. This is a judgment call. The biggest problem will be the wrong extinguisher in place, causing a people problem.

5

Heating Equipment

2015 & 2018
1: 30.2.10.2

- The presence of a portable heater in the building should light up the imagination of any inspector. Even though it isn't being used now, it may well be used when it gets colder.

6

Automotive Lift

2015 & 2018
101: 7.3.4.1(2)

- NFPA 101 requires in 7.3.4 that this dimension be a minimum of 36 in (91 cm) clear width for exit access to an exit.

PUBLIC ASSEMBLY

References and Answers

QUESTION NUMBER	RELATED CODES	KEY POINTS
1	<p>2015 101: 3.3.92.2 2018 101: 3.3.95.2 2015 & 2018 101: 13.7.4</p> <p>101: 10 101: 13.3.3 101: 13.7.5</p>	<p><u>Table Covers</u></p> <ul style="list-style-type: none"> Table covers are not classified as an interior finish. <p>Some occupancies, such as hospitals and other health care facilities, address curtains, draperies and chair coverings. If the corridor is a protected access to an exit, a fuel load is not permitted in the corridor. From the information given, this fact cannot be determined.</p> <p>This would be the closest reference concerning interior finishes. Note that “interior finish” includes interior wall and ceiling finish, but not table cloths. The operating features of existing public assembly occupancies are addressed in chapter 13 of NFPA 101.</p>
2	<p>2015 & 2018 101: 7.3.3.1 101: 13.2.3 101: 13.2.3.6.2</p>	<p><u>Passageway Width</u></p> <ul style="list-style-type: none"> Passage narrows down to 4.5 feet (54 in.) (1.4 m/137 cm) <ul style="list-style-type: none"> Taking 0.2 in times 400 people we get 80 in. (203 cm) of exit width needed. The main entrance/exit shall be of a width that accommodates one-half of the total occupant load. 40 in. of exit width required for 200 people. The 4.5 ft (1.4 m) of width meets the code minimum for the 400-person occupant load of the assembly occupancy. <p><i>Comments: from the information provided, additional investigation needs to take place on the following items:</i></p> <ul style="list-style-type: none"> The entire means of egress needs to be accessed to ensure that proper egress exists. Back hallway: does it lead in two directions or only one? <ul style="list-style-type: none"> What is the width of the hallway Where does it lead? Occupant load: What is the occupant load for the room? <ul style="list-style-type: none"> What is the egress capacity of the room and exits? Is occupant load posted for all approved arrangements? The total occupant load for the room can be a maximum of 2,857 persons for concentrated use, for this meeting the occupant load is 400.

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3

2015 & 2018
101: 13.2.4.1
101: 13.2.3.6.2
101: 7.4

Exit Requirements

- An assembly occupancy with less than 500 people requires two separate means of egress. The 80 in. (203 cm) of exit width from the previous calculation divided by 2 equals 40 in. (102 cm) per exit.
 - This is above minimum required door width of 28 in. (71 cm).
 - Cannot use 36 in. (91cm) doors because of the 50-50 rule. A 3 foot (0.9 m) door only serves 167 people.
- Deficiencies noted other than exits in the meeting room:
- Coffee service set up obscuring clearly marked exits
 - Large video screen in front of two exit doors at front of room
 - Display board blocks access to fire extinguisher
 - The storage of chairs, etc. "in the back hallway where the meeting room exits."

101: 7.1.9
101: 7.1.10
101: 7.2.1.5.1

101: 7.1.9
101: 7.1.10.2.1

4

2015 & 2018
101: 13.2.5.8
101: 13.2.5.7.4

Aisle Spacing

- Based on the information, row and aisle seating can be assumed.
- Since there is class instruction, there is a minimum required aisle width of 44 in. (112 cm). The assumption is that the aisles are the main aisles and not aisle access ways.

5

2015 & 2018
1: 50.5.2.1
1: 50.5.6.13
1: 50.5.6.14
1: 50.5.6.15

1: 50.5.2
1: 50.5.3

Hood Range System

- Refer to the current edition that calls for semi-annual testing.
- An expired tag is a sure-fire clue that the testing is not being done.
 - Any reputable contractor will remove the old tag when he places a new tag on the system.
 - If no tag is present, then it is possible it was ripped off.
 - Check with the restaurant manager. See if there is available a recent invoice on the testing of the system.
- Greasy vent screen.
- See NFPA 96 regarding provisions for inspecting the hood and duct every six months.
 - The appendix material that is not part of the requirements of the standard suggests cleaning schedules based on fire experience.

Comment: some jurisdictions modify the requirements for cleaning of certain classes of restaurants such as "oriental" when heavy wok cooking grease accumulations require more frequent cleaning, such as monthly, thus adopting some of the appendix material recommendations.

6

2015 & 2018
101: 13.3.5

Sprinkler System

- With the information provided, it is not clear whether a sprinkler system is required.
- If the occupancy is a new assembly occupancy with an occupant load of 400 persons, sprinklers would be required.

Comment: it is important to note that much of the information needed to answer this question is not provided and would take further investigation.

The reviewer should have reacted to the imminent threat to life from the locked exit and not have left the facility without that condition being rectified.



EXAMINATION STUDY GUIDE FOR CERTIFIED FIRE INSPECTOR I

The objective of this examination study guide is to provide resource materials and study recommendations relating to preparation for the NFPA CFI-I examination. It is written and designed to give you assistance in improving your testing skills.

To make the task of preparing for the examination more manageable, this examination study guide has been organized into four steps:

1. Using the Examination Study Guide
2. Preparation Recommendations
3. Testing and Scoring
4. Final Preparation

STEP 1 - USING THE EXAMINATION STUDY GUIDE

Step 1 (Using the Examination Study Guide)

To maximize the efficiency of your preparation, begin by studying this chapter of the examination study guide. It has been carefully organized and written to provide you with important information to assist you in successfully completing the NFPA CFI-I Examination. There is no easy approach to prepare for the successful completion of the examination. However, through the use of this examination study guide, your approach will be more systematic and logical.

Step 2 (Preparation Recommendations)

The examination study guide provides you with preparation recommendations including good study habits, resources you will need for the examination, what is important to know and understand for taking the examination and additional references that are useful as you prepare. The preparation recommendations will allow you to develop a strategy for successfully completing the examination. Once you have an understanding of what is expected of you, and have outlined your strategy for success, proceed to step 3 of the examination study guide, testing and scoring.

Step 3 (Testing and Scoring)

This step begins by providing a description of the examination, and how it will be scored. Once you have an understanding of the mechanics, proceed with the un-timed sample examination. This will allow you to pinpoint the strengths and weaknesses in your knowledge and preparation for the NFPA CFI-I Examination.

Step 4 (Final Preparation) Step 4 will assist you in developing your strategy for success, and to improve upon your weaknesses. This step further develops the skills necessary to promote successful completion of the examination. Once you have fine-tuned your strategy, and made improvements where necessary, you will take a timed sample examination. This sample is comprised of 20 questions, and includes an answer key.

Optional Practice Exam

For additional exam preparation, NFPA offers an online practice exam. This 100-question practice exam uses retired Certified Fire Inspector I (CFI-I) exam questions, and new practice questions written specifically for this product. The practice exam is available for purchase on the NFPA website at www.nfpa.org/cfi.

STEP 2 - PREPARATION RECOMMENDATIONS

A good strategy for success includes preparation. In preparing for study, determine first what you need to learn, choose study materials, and select a quiet, comfortable place for study. Before you begin, check to make sure you have everything you need. Try to avoid interruptions for any reason.

Developing a study plan will allow you to learn the most as you study. Include setting goals in your study plan. Review what you have studied as often as possible. The more you review, the more you will retain.

► Examination Resources

The following list contains the resources to be used in preparing for and to be used during the examination. Please verify which set is appropriate for you with your program administrator.

2015 Code Set

NFPA 1, 2015 Ed.
NFPA 13, 2013 Ed.

NFPA 25, 2014 Ed.
NFPA 72, 2013 Ed.

NFPA 101, 2015, Ed.

OR

2018 Code Set:

NFPA 1, 2018 Ed.
NFPA 13, 2016 Ed.

NFPA 25, 2017 Ed.
NFPA 72, 2016 Ed.

NFPA 101, 2018, Ed.

The IFSTA Fire Inspection and Code Enforcement, 8th Edition is also part of the exam's body of knowledge. It is available for purchase at www.ifsta.org

Remember, it is your responsibility to obtain materials you will need for study purposes and to have present during the examination.

► Once you have access to, or have obtained, all the resource materials necessary for study, what are the important points to focus on? Begin by learning the layout of your resource materials. For example, *NFPA 1, Fire Code*, covers all aspects of fire protection and prevention utilized in other NFPA codes and standards. Each NFPA document is divided into similar sections, beginning with administration and definitions, followed by the specific requirements in the code. The better you understand the layout of the resources, the easier it will be to find answers to questions during the examination.

Develop an understanding of the general content of each resource. For example, *NFPA 13, Standard for the Installation of Sprinkler Systems*, covers all aspects of the installation of fire protection systems. With an understanding of the resource, it will be easier to determine the applicable document for answers to questions during the examination.

► **The NFPA CFI-I examination** is a four-hour functionally oriented exam. It is comprised of 100 multiple-choice questions. The examination is designed to evaluate your knowledge of fire inspection principles and code application skills at the level of fire inspector I (as defined in NFPA 1031).

Experience indicates that the full four hours is needed to complete the examination.

During the examination, you will interpret and apply code-related material in response to the selected test questions. As previously stated, pacing yourself and knowing the general layout and content of the NFPA codes and standards are very important to your strategy for success.

► **Sample Question and Analysis**

The following steps will assist you in finding the answer to a question.

Question - What is the occupant load factor used for determining the required means of egress for an existing business occupancy?

- (A) 20 sq ft (1.9 sq m)
- (B) 50 sq ft (4.6 sq m)
- (C) 100 sq ft (9.3 sq m)
- (D) 200 sq ft (18.6 sq m)

Analyze the Question - This question refers to the requirement of occupancy load factors for determining means of egress.

Find the right reference document – Means of egress provisions are addressed by *NFPA 101®*, *Life Safety Code®*. Annex B of the codes and standards give you a numerical listing of all NFPA codes and standards. You can use this to search for additional titles that may be appropriate for the particular question.

Check the contents page and/or index - By scanning the contents and/or the index pages you should be able to find the appropriate chapter or section. In this case, checking the content page, you will find it listed under Chapter 7.3, Capacity of Means of Egress. The index gives you, however, a better reference. Under “Occupant Load,” there is reference to “Business Occupancies,” the referenced section is 39.1.7. Reading this section, it refers you to the occupancy load factor table 7.3.1.2.

Use the information to answer the question - Based on the information provided in the table, the correct answer to the sample question would be (C) 100 sq ft (9.3 sq m).

► **Marking the Answer Sheet**

If you are participating in the NFPA CFI-I seminar, and sitting for the paper & pencil exam, the answer sheet involves filling in circles to record your answers. The following instructions always apply:

- Make heavy black marks that fill the circle completely.
- Erase clearly any answer you wish to change.
- Make no stray marks on the answer sheet.
- Use a black lead number 2 pencil.

The following sample question will show you how to correctly fill in the answer sheet.

Question 1: Another name for a canine is?

- (A) Ferret
- (B) Elephant
- (C) Dog
- (D) Cat

The correct answer is (C) Dog. On the answer sheet under Question 1, you would fill in the circle for the “C” as shown below.



STEP 3- TESTING AND SCORING

► *Sample Un-timed Examination*

1. Which one of the following is not found on a certificate of fitness?
 - (A) Expiration date
 - (B) Signature of applicant
 - (C) Purpose of certificate
 - (D) Notary public seal

2. How often are inspections of waterflow alarm devices required to be performed?
 - (A) Weekly
 - (B) Monthly
 - (C) Quarterly
 - (D) Annually

3. What is the suggested corrective action for a hose valve that does not operate smoothly for a manual standpipe system?
 - (I) Repair
 - (II) Replace
 - (III) Locked out
 - (IV) Close
 - (V) Remove
 - (A) I + II
 - (B) I + III
 - (C) II + IV
 - (D) II + V

4. Where must fire department connections on wet-pipe automatic sprinkler systems be located?
 - (A) On the system side of the water supply check valve
 - (B) On the suction side of booster pumps
 - (C) On the supply side of the check valve in a single-riser system
 - (D) Above the dry-pipe valve on a single-riser dry-pipe system

5. What is the required minimum sustained pressure for an air pressure test held during an acceptance test for a dry-pipe sprinkler system?
 - (A) 40 psi (276 kPa)
 - (B) 80 psi (552 kPa)
 - (C) 160 psi (1104 kPa)
 - (D) 200 psi (1380 kPa)

6. Which one of the following systems contains open sprinklers?
 - (A) Wet-pipe system
 - (B) Dry-pipe system
 - (C) Preaction system
 - (D) Deluge system

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7. Which one of the following is a closed head system activated by a fire detection device?
 (A) Wet-pipe system
 (B) Dry-pipe system
 (C) Preaction system
 (D) Deluge system
8. Which one of the following is not a permitted component within a means of egress for new health care occupancies?
 (A) Doors
 (B) Fire escape stairs
 (C) Stairs
 (D) Horizontal exits
9. What is the minimum per occupant floor area requirement for a new educational classroom facility?
 (A) 7 ft² (0.6 m²)
 (B) 15 ft² (1.4 m²)
 (C) 20 ft² (1.9 m²)
 (D) 50 ft² (4.6 m²)
10. Which one of the following occupancies and occupant loads are NOT properly paired?
- | <u>Type of Occupancy</u> | <u>Number of sq ft (sq m)
required per person</u> |
|--------------------------------------|---|
| (A) Library (reading room) | 100 (9.3) |
| (B) Conference room (unconcentrated) | 15 (1.4) |
| (C) Swimming pool (water surface) | 50 (4.6) |
| (D) Lodge hall (concentrated use) | 7 (0.65) |
11. What is the wall that separates a legitimate stage from the auditorium seating area called?
 (A) A curtain wall
 (B) A parapet wall
 (C) A proscenium wall
 (D) A panel wall
12. A non-sprinklered boiler room in an existing business occupancy must be separated from the rest of the building by fire barriers having what minimum fire resistance rating?
 (A) 3/4 hour
 (B) 1 hour
 (C) 1-1/2 hours
 (D) 2 hours
13. What is the minimum required thickness for a solid bonded-wood-core door with a 20-minute fire protection rating, in an existing apartment building that separates a living unit and corridor?
 (A) 1-1/4 in. (31 mm)
 (B) 1-1/2 in. (38 mm)
 (C) 1-3/4 in. (44 mm)
 (D) 2 in. (51 mm)

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14. How often are fire drills required for each shift of facility personnel in acute care hospitals?
- (A) Monthly
 - (B) Quarterly
 - (C) Semiannually
 - (D) Annually
15. Which of the following devices are not required to activate the smoke-control system in a new atrium?
- (I) Automatic sprinkler systems
 - (II) Smoke detectors
 - (III) Manual controls for fire departments use
 - (IV) A manual fire-protective signaling system
- (A) I + II
 - (B) I + III
 - (C) II + III
 - (D) II + IV
16. What is the minimum sound level required above the average ambient sound level for audible appliances installed in sleeping areas?
- (A) 5 dBA
 - (B) 10 dBA
 - (C) 15 dBA
 - (D) 70 dBA
17. In an un-sprinklered educational occupancy of Type IV construction, draft stops shall be provided between the suspended ceiling and floor above at a minimum of every:
- (A) 500 ft² (46 m²)
 - (B) 1,000 ft² (93 m²)
 - (C) 1,500 ft² (139 m²)
 - (D) 3,000 ft² (280 m²)
18. Which one of the following options is not a proper staff procedure when a fire is discovered in a health care facility?
- (A) Rescuing occupants at risk
 - (B) Confining the fire
 - (C) Transmitting an alarm
 - (D) Ventilating the fire
19. What is the minimum distance above ground level for the discharge point for vent pipes from vaults or above ground storage tanks containing Class I liquid?
- (A) 12 ft (3.6 m)
 - (B) 10 ft (3 m)
 - (C) 8 ft (2.4 m)
 - (D) 6 ft (1.8 m)

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20. Chapter 66 of NFPA 1, Fire Code applies to all flammable and combustible liquids EXCEPT those that remain solid above a minimum temperature of:
- (A) 32° F (0° C)
 - (B) 100° F (38° C)
 - (C) 150° F (66° C)
 - (D) 212° F (100° C)
21. What is the maximum amount of Class II liquids that can be stored in a single control area in a partially sprinklered occupancy?
- (A) 60 gal. (227 L)
 - (B) 75 gal. (284 L)
 - (C) 100 gal. (378 L)
 - (D) 120 gal. (454 L)
22. On smooth ceilings, what distance is permitted to be used as a guide when spacing spot-type smoke detectors?
- (A) 15 ft (4.6 m)
 - (B) 20 ft (6.1 m)
 - (C) 30 ft (9.1 m)
 - (D) 50 ft. (15.2 m)
23. The valves of portable LP-Gas containers shall be protected against damage while in storage when the containers are in which of the following conditions?
- (I) Full
 - (II) Partially full
 - (III) Empty
- (A) I only
 - (B) III only
 - (C) I and II only
 - (D) I, II, and III

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Sample Un-timed Examination Answer Key

1	D	NFPA 1: 1.13.10, 2015 & 2018
2	C	NFPA 25: 5.2.5, Table 5.1.1.2, 2014 5.2.4, Table 5.1.1.2, 2017
3	A	NFPA 25: 13.5.6.2.1.1, 2014 & 2017
4	A	NFPA 13: 8.17.2.4.1, 2013 & 2016
5	A	NFPA 13: 25.2.2.1, 2013 & 2016
6	D	NFPA 13: 3.4.4, 2013 & 2016
7	C	NFPA 13: 3.4.10, 2013 & 2016
8	B	NFPA 101: 18.2.2.3 / 7.2.2, 2015 & 2018
9	C	NFPA 101: Table 7.3.1.2 & 14.1.7, 2015 & 2018
10	A	NFPA 101: Table 7.3.1.2, 2015 & 2018
11	C	NFPA 101: 3.3.288.2, 2015 3.3.299.2, 2018
12	B	NFPA 101: 39.3.2.2, 2015 & 2018
13	C	NFPA 101: 31.3.6.2.1, 8.3.4.4, 2015 31.3.6.2.1, 8.3.3.2.4, 2018
14	B	NFPA 101: 18.7.1.6, 19.7.1.6, 2015 & 2018
15	D	NFPA 101: 8.6.7(6), 2015 & 2018
16	C	NFPA 72: 18.4.5.1, 2013 & 2016
17	B	NFPA 101: 8.6.11.1(3), 2015 & 2018
18	D	NFPA 101: 18.7.2.1.2 & 19.7.2.1.2, 2015 & 2018
19	A	NFPA 1: 66.25.13.1, 2015 & 2018
20	B	NFPA 1: 66.1.3(1), 2015 & 2018
21	D	NFPA 1: 66.9.6.1, Table 66.9.6.1, 2015 & 2018
22	C	NFPA 72: 17.7.3.2.3.1(1), 2013 & 2016
23	D	NFPA 1: 69.2.1.2.1, 2015 & 2018

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STEP 4-FINAL PREPARATION

► Please treat the following sample questions as a timed exam. To simulate the exam experience, you should allow yourself a maximum of 48 minutes to complete this exercise.

1. Class B interior wall or ceiling finish has which of the following flame-spread ratings?
 - (A) 0-25
 - (B) 26-75
 - (C) 76-200
 - (D) 201-400

2. What is the maximum allowable smoke-developed rating of an interior wall or ceiling finish material?
 - (A) 25
 - (B) 75
 - (C) 200
 - (D) 450

3. Which of the following are the minimum requirements for conducting fire exit drills in a hospital?
 - (A) Monthly, for each shift
 - (B) Quarterly, for each shift
 - (C) Semiannually, for each shift
 - (D) Annually, for each shift

4. Which of the following is required in a theater with 350 fixed seats?
 - (A) The employees shall be trained in the duties they are to perform in case of a fire.
 - (B) An announcement is to be made prior to the performance to notify occupants which exits are to be used in case of a fire.
 - (C) Employees shall be instructed in the proper use of fire extinguishers if provided.
 - (D) All of the above.

5. In theaters, during times that seats are not available, people will be allowed to wait in lobbies based on how many square feet (square meters) per person?
 - (A) 3 ft² (0.3 m²)
 - (B) 5 ft² (0.5 m²)
 - (C) 7 ft² (0.6 m²)
 - (D) 10 ft² (0.9 m²)

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6. In a new nursing home sleeping area, the occupant load for which a means of egress is provided shall be the maximum number of persons intended to occupy that floor, but not less than one person for each:
- (A) 100 ft² (9 m²)
 - (B) 120 ft² (11 m²)
 - (C) 140 ft² (13 m²)
 - (D) 240 ft² (22 m²)
7. What is the minimum allowable per-person floor area on either side of a horizontal exit in an educational occupancy?
- (A) 3 ft² (0.3 m²)
 - (B) 7 ft² (0.6 m²)
 - (C) 20 ft² (1.8 m²)
 - (D) 30 ft² (2.8 m²)
8. What is the minimum required total stair width in a non-sprinklered hotel with an occupancy capacity of 650?
- (A) 130 in. (330 cm)
 - (B) 195 in. (495 cm)
 - (C) 217 in. (551 cm)
 - (D) 455 in. (1156 cm)
9. What is the occupant load of a 6,000 sq ft (557 sq m) restaurant dining room?
- (A) 60
 - (B) 100
 - (C) 400
 - (D) 600
10. In a new single-story one- and two-family dwelling, smoke detectors are required in the following locations?
- (I) Outside each sleeping area
 - (II) Kitchen area
 - (III) Sleeping rooms
 - (IV) Laundry/utility room area
- (A) I + II
 - (B) I + III
 - (C) II + III
 - (D) II + IV

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11. Prior to seeking final approval for a sprinkler installation, an installer shall do which of the following?
- (I) Perform all required acceptance tests
 - (II) Complete all contractors' material and test certificates
 - (III) Notify authority having jurisdiction of the time and date of test
 - (IV) Complete owners' approval form and forward it to the authority having jurisdiction
- (A) I and IV only
(B) III and IV only
(C) I, II, and III only
(D) II, III, and IV only
12. Who is responsible to ensure that water-based fire protection systems are properly maintained?
- (A) Owner(s)
(B) Occupant(s)
(C) Authority Having Jurisdiction
(D) Fire Department
13. Which system piping contains air or nitrogen under pressure at all times?
- (A) Wet-pipe system
(B) Dry-pipe system
(C) Preaction system
(D) Deluge system
14. Which system piping contains water under pressure at all times?
- (A) Wet-pipe system
(B) Dry-pipe system
(C) Preaction system
(D) Deluge system
15. Which system has a quick-opening device?
- (A) Wet-pipe system
(B) Dry-pipe system
(C) Preaction system
(D) Deluge system
16. What is the testing frequency for level indicators on a water storage tank?
- (A) Monthly
(B) Semiannually
(C) Annually
(D) 5 years

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17. A Board of Appeals must meet within how many days of the filing of a notice of appeal?
- (A) 30 days
 - (B) 60 days
 - (C) 90 days
 - (D) 120 days
18. Which of the following statements best describes the term *flashpoint*?
- (A) The minimum temperature at which the vapor pressure of the liquid is sufficient to produce an ignitable mixture.
 - (B) The minimum concentration of vapor to air below which propagation of a flame will not occur in the presence of an ignition source.
 - (C) The rate at which a liquid is converted to a vapor state at any given temperature and pressure.
 - (D) The temperature to which a closed or nearly closed container of flammable liquid must be heated to ignite spontaneously and burn.
19. A Class IIIA combustible liquid has a flash-point at or above:
- (A) 73°F and below 100°F (23°C and below 38°C)
 - (B) 100°F and below 140°F (38°C and below 60°C)
 - (C) 140°F and below 200°F (60°C and below 93°C)
 - (D) 200°F (93°C)
20. How often shall personnel responsible for the use and operation of fire protection equipment be provided refresher training?
- (A) Monthly
 - (B) Quarterly
 - (C) Semiannually
 - (D) Annually

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Sample Timed Examination Answer Key

► You may use this answer key to evaluate your responses. Mark on this answer key those questions you answered incorrectly and review those documents to find the correct answer.

Question No.	Answer	Reference Source
1	B	NFPA 101: 10.2.3.4.2, 2015 10.2.3.3(2), 2018
2	D	NFPA 101: 10.2.3.4, 2015 10.2.3.3(3), 2018
3	B	NFPA 101: 18.7.1.6 & 19.7.1.6, 2015 & 2018
4	D	NFPA 101: 12.7.7 & 13.7.7, 2015 & 2018
5	A	NFPA 101: 12.1.7.2(3) & 13.1.7.2(3), 2015 & 2018
6	B	NFPA 101: 18.1.7 & Table 7.3.1.2, 2015 & 2018
7	A	NFPA 101: 7.2.4.2.4, 14.2.2.5 & 15.2.2.5, 2015 & 2018
8	B	NFPA 101: 7.2.2 & 7.3.3.1, 28.2.2.3 & 29.2.2.3, 2015 & 2018
9	C	NFPA 101: Table 7.3.1.2, 12.1.7 & 13.1.7, 2015 & 2018
10	B	NFPA 101: 24.3.4.1.1, 2015 & 2018
11	C	NFPA 13: 25.1, 2013 & 2016
12	A	NFPA 25: 4.1.1, 2014 & 2017
13	B	NFPA 13: 3.4.5, 2013 & 2016
14	A	NFPA 13: 3.4.11, 2013 & 2016
15	B	NFPA 13: 7.2.4, 2013 & 2016
16	D	NFPA 25: 9.3.1, 2014 & 2017
17	A	NFPA 1: 1.10.5.1, 2015 & 2018
18	A	NFPA 1: 3.3.129, 2015 3.3.134, 2018
19	C	NFPA 1: 66.4.2.2(2)(a), 2015 & 2018
20	D	NFPA 1: 66.21.6.5.2, 2015 & 2018



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