Examination for Architects in Canada (ExAC) Section 2 – Code Research Practice Exam (Sample)

Study Guide

Everything you need from our exam experts!

Copyright © 2025 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain from reliable sources accurate, complete, and timely information about this product.

SAMPLE

Questions

SAMPLE

1. **If a building is entirely below grade and has more than 1 storey, what are the FRR requirements for floors?**
   - **A. 3 hr for all building types**
   - **B. 3 hr for Group E and F1 and F2; 2 hr otherwise**
   - **C. 2 hr for all Group E and F buildings**
   - **D. No requirement for FRR**

2. **What is the minimum clear height over a stair in a secondary suite located under a beam or duct?**
   - **A. 1700mm**
   - **B. 1800mm**
   - **C. 1850mm**
   - **D. 1900mm**

3. **When is a crawl space considered a basement?**
   - **A. If it has a height greater than 1800mm**
   - **B. If it is equipped with mechanical ducts or piping and is occupied**
   - **C. Both A and B**
   - **D. If it has a horizontal dimension greater than 25m**

4. **In terms of mezzanine regulations, what percentage can enclosed space make up of the total mezzanine area?**
   - **A. 5%**
   - **B. 10%**
   - **C. 15%**
   - **D. 20%**

5. **What is the maximum slope ratio allowed for exterior ramps?**
   - **A. 1 in 8**
   - **B. 1 in 6**
   - **C. 1 in 10**
   - **D. 1 in 12**

SAMPLE

6. What is the maximum height for buildings that Part 9 applies to?

- **A. 4 storeys**
- **B. 2 storeys**
- **C. 3 storeys**
- **D. 5 storeys**

7. What does "occupancy separation" mean in multi-use buildings?

- **A. It involves shared facilities among different users**
- **B. It refers to the use of barriers to separate different occupancy types**
- **C. It ensures that all uses have the same access to services**
- **D. It allows for open-plan spaces across different uses**

8. Which of the following could be a potential outcome of failing to comply with safety regulations in building design?

- **A. Increased property value**
- **B. Greater design flexibility**
- **C. Legal ramifications and required rectifications**
- **D. Immediate approval for new projects**

9. Which of the following is a primary concern addressed by building codes?

- **A. Creating visually appealing designs**
- **B. Protecting the environment through construction**
- **C. Ensuring the safety and health of building occupants**
- **D. Maximizing property value**

10. What kind of analysis is conducted to assess wind load on buildings?

- **A. Thermal analysis**
- **B. Hydraulic analysis**
- **C. Structural load analysis**
- **D. Geotechnical analysis**

SAMPLE

Answers

SAMPLE

1. B
2. C
3. C
4. B
5. C
6. C
7. B
8. C
9. C
10. C

SAMPLE

Explanations

SAMPLE

1. If a building is entirely below grade and has more than 1 storey, what are the FRR requirements for floors?

A. 3 hr for all building types

B. 3 hr for Group E and F1 and F2; 2 hr otherwise

C. 2 hr for all Group E and F buildings

D. No requirement for FRR

In the context of buildings that are entirely below grade and have multiple storeys, the Fire Resistance Rating (FRR) requirements for floors are determined based on the occupancy classifications of the building. For Groups E (which typically relates to schools), F1 (high hazard industrial), and F2 (low hazard industrial), a higher level of fire resistance is mandated due to the potential risks associated with these occupancies. Therefore, a 3-hour FRR is necessary to help ensure adequate safety measures are in place for evacuation and fire containment. Conversely, for buildings that do not fall into these specific occupancy groups, the code permits a lower FRR of 2 hours. This distinction highlights the importance of the intended use of the building when considering fire safety regulations. It acknowledges that certain types of occupancy present greater hazards, necessitating more stringent fire safety measures compared to others. This approach balances safety with practicality, ensuring that higher-risk categories receive the additional protection they require while still allowing for reasonable standards for less hazardous building types. Thus, the requirement of 3 hours for Groups E, F1, and F2, and 2 hours for all other groups effectively addresses the varying levels of risk presented by different types of building uses.

2. What is the minimum clear height over a stair in a secondary suite located under a beam or duct?

A. 1700mm

B. 1800mm

C. 1850mm

D. 1900mm

The minimum clear height over a stair in a secondary suite located under a beam or duct is 1850mm. This standard is set to ensure safety and accessibility for users of the stairs. It allows enough headroom for people to move comfortably without risk of bumping their heads on overhead obstructions. In residential construction, particularly within secondary suites, clear height requirements help mitigate hazards associated with height constraints. The provision of 1850mm is particularly important as it aligns with the intention to maintain an accessible and safe environment in living spaces, accommodating various occupants, including those who may be taller or have mobility challenges. In this context, other height values like 1700mm, 1800mm, and 1900mm do not meet the established safety and accessibility standards for stair clearances. The values below 1850mm could result in an unsafe environment if users were to hit their heads, creating a risk of injury. On the other hand, while 1900mm is certainly more generous, it exceeds the minimum requirement, which aims to find a balance between safety and practical architectural considerations.

SAMPLE

3. When is a crawl space considered a basement?

A. If it has a height greater than 1800mm

B. If it is equipped with mechanical ducts or piping and is occupied

C. Both A and B

D. If it has a horizontal dimension greater than 25m

A crawl space is considered a basement under specific conditions that pertain to its height and usage. The consideration of both height and the presence of certain mechanical systems or occupancy is essential in delineating between a crawl space and a basement. The criteria set forth in the correct answer highlight that a crawl space that exceeds a height of 1800mm (or approximately 6 feet) is often classified as a basement due to the potential for human occupancy and use. Additionally, the presence of mechanical ducts or piping indicates that the space is designed for more than mere storage; it may serve as a functional part of the building's infrastructure, further justifying its classification as a basement. In essence, both the height and the presence of systems that support human activity or environment management within the space contribute to its classification. Thus, both factors from the correct answer are significant in defining when a crawl space transitions into the category of a basement.

4. In terms of mezzanine regulations, what percentage can enclosed space make up of the total mezzanine area?

A. 5%

B. 10%

C. 15%

D. 20%

The correct understanding regarding mezzanine regulations is that enclosed space can indeed make up up to 10% of the total mezzanine area. This regulation is established to ensure that while mezzanines are functional additions to a space, they do not become overly enclosed, which could potentially affect fire safety, ventilation, and accessibility. By limiting the percentage of an enclosed area, the code encourages open spaces that enhance visibility, promote safety, and allow for better air circulation. This principle seeks to balance the benefits of having accessible mezzanine levels with the underlying need to maintain safety and compliance with building code requirements. It's important to ensure that any design adheres to this stipulation to avoid setbacks during the permit application or during the building inspection process.

SAMPLE

5. What is the maximum slope ratio allowed for exterior ramps?

A. 1 in 8

B. 1 in 6

C. 1 in 10

D. 1 in 12

The maximum slope ratio allowed for exterior ramps is determined by building codes and accessibility guidelines to ensure safety and usability. A slope ratio of 1 in 10 indicates that for every 10 units of horizontal distance, there can be a rise of 1 unit. This ratio is considered an appropriate balance between accessibility and the physical effort required to ascend or descend the ramp. In the context of exterior ramps, a 1 in 10 slope is preferable as it provides a manageable incline for individuals using wheelchairs or other mobility aids, ensuring that the ramp is not overly steep. This slope facilitates easier navigation, reducing the likelihood of accidents and enhancing accessibility for all users. While steeper slopes, such as 1 in 6 and 1 in 8, may be permissible in certain conditions, they can be more challenging for users, especially those with mobility impairments. A ratio of 1 in 12 is often used for longer ramps and may be applicable in situations where space allows, but it is not the maximum slope allowed for exterior ramps in general. Thus, the choice of a 1 in 10 slope is widely recognized as an optimal standard that balances performance and safety.

6. What is the maximum height for buildings that Part 9 applies to?

A. 4 storeys

B. 2 storeys

C. 3 storeys

D. 5 storeys

Part 9 of the National Building Code of Canada (NBC) specifically applies to residential buildings that are typically considered low-rise. This section is relevant for the construction of buildings that have a maximum height of 3 storeys. The rationale behind this limit is tied to the health and safety regulations that Part 9 encompasses, which are designed for buildings that are smaller in scale and complexity compared to those that fall under Part 3 of the code. Part 9 includes provisions related to structural integrity, fire safety, and accessibility requirements that are manageable for buildings of this height. Understanding the application of Part 9 is essential for architects, as it outlines simplified requirements for designs, construction methods, and materials that best suit low-rise residential environments. Knowledge of the maximum height ensures compliance with regulations and contributes to safer building practices in Canada.

SAMPLE

7. What does "occupancy separation" mean in multi-use buildings?

A. It involves shared facilities among different users

B. It refers to the use of barriers to separate different occupancy types

C. It ensures that all uses have the same access to services

D. It allows for open-plan spaces across different uses

Occupancy separation in multi-use buildings pertains specifically to the use of barriers that delineate and protect different occupancy types, ensuring that each type operates in a safe and code-compliant manner. The primary aim of occupancy separation is to minimize risks associated with fire, noise, and other hazards that may arise when different occupancies are located in proximity. By utilizing physical barriers, like walls, floors, and ceilings, the building code provides safety measures for distinct uses of spaces, such as residential, commercial, or industrial areas, thus offering inhabitants of each occupancy type a secure environment. This concept is critical for maintaining safety and ensuring that the diverse functions within a multi-use building do not negatively impact one another. For example, there may be stricter requirements for fire resistance between a residential unit and a commercial space that has different activities and occupancy loads. This understanding helps architects and designers to comply with local building codes effectively when planning and designing buildings that house multiple uses.

8. Which of the following could be a potential outcome of failing to comply with safety regulations in building design?

A. Increased property value

B. Greater design flexibility

C. Legal ramifications and required rectifications

D. Immediate approval for new projects

Failing to comply with safety regulations in building design can lead to significant legal ramifications and the requirement to rectify any non-compliant aspects of the project. Safety regulations are put in place to protect the health, safety, and welfare of the public, and non-compliance can result in fines, lawsuits, or other legal challenges. When safety regulations are ignored, a building may be deemed unsafe, potentially leading to accidents or injuries. This can attract legal actions from affected parties, regulatory bodies, or even municipal authorities. The outcome often includes the need for costly rectifications, such as redesigning certain elements of the building, addressing code violations, or undertaking construction modifications to ensure compliance. The other options present scenarios that are quite unlikely in the context of failing to meet safety regulations. For instance, increased property value and greater design flexibility tend to arise from adherence to regulations rather than from bypassing them. Additionally, immediate approval for new projects is generally contingent upon compliance with all relevant codes and regulations, which would not be the case if safety standards were not met.

SAMPLE

9. Which of the following is a primary concern addressed by building codes?

A. Creating visually appealing designs

B. Protecting the environment through construction

C. Ensuring the safety and health of building occupants

D. Maximizing property value

Building codes are primarily established to ensure the safety and health of building occupants. These codes set forth regulations for various aspects of construction, including structural integrity, fire safety, sanitation, accessibility, and emergency egress. The fundamental aim is to protect the well-being of individuals who occupy or use the building, minimizing risks associated with structural failure, fire hazards, and unsafe living conditions. While creating visually appealing designs can be important in architectural practice, it is not a primary focus of building codes. Similarly, environmental protection is a growing concern and may be addressed in certain jurisdictions, but it does not overshadow the primary aim of occupant safety. Maximizing property value is a consideration for developers and investors, but building codes do not directly aim to enhance property valuation; instead, they focus on regulatory compliance concerning human health and safety.

10. What kind of analysis is conducted to assess wind load on buildings?

A. Thermal analysis

B. Hydraulic analysis

C. Structural load analysis

D. Geotechnical analysis

The assessment of wind load on buildings involves structural load analysis, which is specifically focused on understanding how various forces, including wind, affect the integrity and stability of a structure. This type of analysis calculates the loads that wind can impose on a building's surfaces and determines how those loads are distributed throughout the structural components. During structural load analysis, engineers evaluate factors such as the shape of the building, its height, exposure to wind, and local topography, all of which influence wind pressures. This analysis is critical for ensuring that a building can withstand wind forces without experiencing failure, deformation, or excessive movement. Thermal analysis, hydraulic analysis, and geotechnical analysis address different aspects of building design and safety. Thermal analysis deals with heat transfer and temperature effects, hydraulic analysis focuses on water flow and drainage systems, while geotechnical analysis pertains to the behavior of soil and its interaction with foundations. None of these analyses specifically address the wind loads on buildings, making structural load analysis the appropriate method for evaluating wind conditions.

SAMPLE