



## Building Code Qualification Examination Sample Questions for 2006 Examinations

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#### Note:

1. This document contains sample examination questions adapted from the examination question pools used to produce individual Building Code examinations.
2. Candidates should refer to the Building Code website, [www.ontario.ca/buildingcode](http://www.ontario.ca/buildingcode) for important documents including relevant Examination Programs, Examination Syllabi, and Candidate Protocol.
3. The sample examination is divided into the same categories as those found in Division C, Table 3.5.2.1.



## Building Code Qualification Examination Sample Examination (cover sheet)

### INSTRUCTIONS - READ CAREFULLY!

Candidate's Full Name: \_\_\_\_\_

Building Code Identification Number (BCIN) : \_\_\_\_\_

Date of Examination: \_\_\_\_\_

1. **DO NOT OPEN** this examination until directed to do so by the proctor.
2. You may use only the following during this examination:
  - 2006 Building Code and Supplementary Standards amended to O.Reg 205/08
  - Non-programmable CalculatorNote: electronic versions of reference material are not permitted
3. This examination contains **75** multiple choice questions. Each question carries equal weight.
4. The pass mark for this examination is **70%**.
5. Read each question and option **carefully**, then select the best answer by filling in the Letter Bubble on the Machine Scoring Sheet. Make sure that your choice and question number correspond to the correct location on the Machine Scoring Answer Sheet.
6. Use only the pencil provided.
7. You have three (3) hours to complete the examination. Attempt to answer all of the questions.
8. This examination paper **must** be turned in with your Machine Scoring Answer Sheet. Make sure your name is entered on **both** this Examination Paper and the Machine Scoring Answer Sheet. Failure to do so may lead to your examination results not being accepted.
9. Examination candidates must abide by the Ministry of Municipal Affairs' Examination Program Candidate Protocol.

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## Sample General Legal/Process Questions

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1. According to Part 1 of Division A, the construction of an 800 m<sup>2</sup>, one storey farm building with an occupant load of 25 persons is regulated by the requirements of:

- A. Article 1.1.2.4. of Division A
- B. Sentence 1.3.1.2.(1) of Division A
- C. Article 9.40.1.1. of Division B
- D. Supplementary Standard SB-11, "Construction of Farm Buildings" by way of Sentence 1.3.1.2.(4) of Division A

2. Either before or after an Order Not To Cover or Enclose is served, the inspector:

- A. must post a copy of the order at the site
- B. may post a copy of the order on the site of the demolition
- C. may post a copy of the order at the site
- D. must obtain permission from the Chief Building Official before posting the order at the site

3. According to the Building Code Act, a design includes a plan, specification, sketch, drawing or graphic representation respecting the construction:

- A. of a building
- B. or demolition of a building
- C. demolition or change of use of a building
- D. repair, demolition or change of use of a building

4. It is an option for the councils of one or more municipalities to enter into agreement with the upper-tier municipality to provide for the enforcement, by the latter, the provisions of the Building Code Act and the building code related to sewage systems and for charging the whole or part of the cost to the:

- A. board of health
- B. municipalities
- C. conservation authority
- D. planning board

5. During an inspection an inspector observes a material change from the approved plans. The inspector's first option is to:
- A. make and serve an Order to Comply
  - B. ask the person to file a certificate of change with the Chief Building Official
  - C. ask the person to file details of the material change with the Chief Building Official and obtain approval
  - D. ask the Chief Building Official to order that the construction cease until the matter is resolved

6. In considering a Part 10 change of use, Sentence 10.3.2.1.(1) of Division B informs us that the performance level of the building after the change of major occupancy must not be less than the performance level prior to the change in major occupancy, as determined in accordance with Division B, Article 10.3.2.2.

According to Division B, Sentence 10.3.2.2.(7), the performance level of an existing building of combustible construction would be reduced if the occupancy was changed to residential in a two storey unsprinklered building facing two streets if the building area of the existing building exceeded:

- A. 1500 m<sup>2</sup>
- B. 900 m<sup>2</sup>
- C. 750 m<sup>2</sup>
- D. 600 m<sup>2</sup>

7. A child care facility with an occupant load of 40 persons is being renovated. According to Division B, Sentence 11.4.1.1.(1) and Article 11.4.2.2., without a detection and alarm system the occupant load could be increased by:

- A. 6 persons to 46
- B. 7 persons to 47
- C. zero persons because an occupant load of more than 40 persons requires a detection and alarm system
- D. more than 15%

8. In Part 2 of Division C, where there is a dispute in relation to Subsection 10.2(2) of the Act, the Building Code Commission after receiving an inspection:

- A. must hold a hearing regarding the time within which a prescribed inspection had been carried out
- B. may hold a hearing regarding the time within which a prescribed inspection had been carried out
- C. may hold a hearing regarding the application containing the prescribed information and the time frame for the issuance of a permit
- D. may hold a hearing regarding the refusal of the Chief Building Official to issue a permit with the appropriate reason within the specified time frames

9. Table 3.5.2.1. as found in Division C lists the various classes of registration and categories of qualifications for inspectors and persons who carry out design activities. What class of registration for persons delivering design activities to the public or category of qualification for inspectors would be described by; building systems, fixtures and service systems for buildings in which Section 9.32. or 9.33. of Division B apply?

- A. Building Services
- B. HVAC - House
- C. Plumbing - All Buildings
- D. Plumbing - House

10. According to Article 3.7.4.5. of Division C, a duly signed certificate of authorization must include the date:

- A. of issuance of the certificate
- B. the agency was registered
- C. the person named in the certificate received his/her qualifications
- D. of termination of the certificate

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## Sample Powers and Duties of CBO Questions

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11. According to Section 13 of the Building Code Act, during an inspection, the inspector may make an Order Not To Cover or Enclose:

- A. any part of the building pending an inspection if the inspector finds a contravention of the Building Code Act or the Building Code
- B. any part of the building pending the issuance of a Stop Work Order
- C. subject to receiving permission from the chief building official permitting the issuance of the order
- D. any part of the building pending the inspection

12. Under the Building Code Act in order to be eligible to be appointed as registered code agency, a person must meet the:

- A. qualifications as set out in the code
- B. requirements as set out in the code
- C. qualification and requirements as set out in the code
- D. requirements as set out by the director of the Building and Development Branch

13. According to the Building Code Act, an appointed Registered Code Agency is required to use prescribed forms and certificates. Such forms and certificates are to contain the information as described:

- A. in the Building Code Act
- B. in the Building Code
- C. in the agreement with the principal authority
- D. by the Director of the Building and Development Branch of the Ministry of Municipal Affairs and Housing

14. A municipality that is NOT party to an agreement with the upper-tier municipality to provide for the enforcement, by the latter, of the provisions of the Building Code Act and the Building Code related to plumbing, may enter into an agreement to do so directly with the:

- A. conservation authority
- B. board of health
- C. planning board
- D. public health unit

15. The inspection of a building of combustible construction, under Division B, Clause 11.2.1.1.(1)(a), revealed that the floor assemblies are fire separations with 1 hour of fire-resistance rating and the roof assembly has 1 hour of fire-resistance rating. Consequently, this building would be assigned a construction index of:

- A. 5
- B. 6
- C. 4 if the building is facing multiple streets
- D. 3 if it is a small building facing multiple streets

16. Division C, Article 1.3.1.3. requires that, within specific time frames, the chief building official either must issue a building permit or refuse to issue a permit and provide the reasons why the permit is not being issued.

For a five storey hospital building, that time frame is set at:

- A. 10 days
- B. 15 days
- C. 20 days
- D. 30 days

17. According to Division C, Article 3.2.5.1., designers who are NOT required to be registered with the director must have specific qualifications. The designer must have successfully completed provincial examinations dealing with the:

- A. knowledge of the Building Code Act, the Building Code and the powers and duties of chief building officials
- B. knowledge of the Building Code Act, the Building Code and the powers and duties of chief building officials and with the person's knowledge related to any one of the qualifications as indicated in Division C, Column 3 of Table 3.5.2.1.
- C. person's knowledge of the Building Code Act and the Building Code related to any one of the qualifications as indicated in Division C, Column 3 of Table 3.5.2.1.
- D. Building Code Act and the Building Code in the category of qualification indicated in Division C, Column 3 of Table 3.5.2.1., which corresponds with the person's design activities

18. Division C, Table 3.5.2.2. sets out the category of qualification for persons described in Division C, Clauses 3.4.3.2.(1)(a) to (c). Which row in Division C, Column 4 of Table 3.5.2.1. would describe the category of qualification for a person employed by a registered code agency in order to provide services with regard to Building Services for Large Buildings?

- A. Row 3
- B. Row 6
- C. Row 8
- D. Row 10

19. One of the time frames for the delivery of the documents described in Division C, Sentence 3.7.6.3.(2) to the Chief Building Official, is:

- A. the time period specified in the agreement with the registered code agency
- B. 180 days after the completion of the construction of the building
- C. the time limit set by the director of the Building and Development Branch
- D. 30 days after the completion of the appointment of the registered code agency

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## Sample Powers and Duties of RCA Questions

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20. According to Division A, Part 1, the design and construction of designated structures are subject to the requirements of Division B:

- A. Part 3
- B. Part 4
- C. Part 7
- D. Part 9

21. According to the Building Code Act, it is the role of the builder to use building techniques appropriate to achieving compliance with the:

- A. order(s) issued by an inspector under Subsection 13(6)
- B. Building Code Act and the building code
- C. orders(s) issued by an inspector under Subsection 14(1)
- D. plan review certificate of an inspector under Clause 15.15 2

22. According to the Building Code Act, the authority to issue a change certificate lies with the:

- A. registered code agency
- B. chief building official
- C. director of the Building and Development Branch of the Ministry of Municipal Affairs and Housing
- D. senior plans examiner or the senior building inspector of the principal authority

23. Where the council of one or more municipalities and an upper tier municipality have entered into an agreement providing for the enforcement of the Building Code Act and the building code by the latter, the agreement may provide for charging the whole or part of the costs of enforcement:

- A. with relation to plumbing to the board of health
- B. to the municipality(ies)
- C. in relation with sewage systems to the conservation authority
- D. to the municipality(ies) that are not part of the agreement

24. According to Section 35 of the Building Code Act, the Building code and the Building Code Act supersede:

- A. municipal site plan approvals
- B. site development agreements
- C. municipal construction and demolition by-laws
- D. zoning by-laws



25. Consider an existing building that has the following characteristics:

- noncombustible construction
- not sprinklered
- floor over basement has 30 minutes of fire-resistance rating
- other floors have a 2 h fire-resistance rating
- roof has 45 minutes of fire-resistance rating

The Construction Index of this building is:

- A. 3
- B. 4
- C. 5
- D. 6

26. As stated in Division C, Part 3, a designer is NOT required to be registered with the director, and is exempt from the requirements for qualification of other designer, if the design activity is for the construction of a(n):

- A. attached garage having a building area of 60 m<sup>2</sup> and serving a dwelling unit
- B. tent having an area of 225 m<sup>2</sup> and without sidewalls
- C. any farm building of low human occupancy
- D. construction of a row house containing four dwelling units with no dwelling unit above another

27. Division C, Table 3.5.2.2. sets out the Category of Qualification for persons described in Division C, Clauses 3.4.3.2.(1)(a) to (c). Which row in Column 4 of Table 3.5.2.1. of Division C would describe the Category of Qualification for a person employed by a registered code agency in order to provide services with regard to On-Site Sewage Systems for a house ?

- A. Row 1
- B. Row 5
- C. Row 7
- D. Row 10

28. According to Division C, Section 3.7., a registered code agency may issue a certificate for the occupancy of a building not fully completed, if the agency has:

- A. not issued an order to comply against the building in question
- B. issued an order to comply against the building in question covering the deficiencies noted
- C. been appointed to perform the function as described in the Building Code Act for the building to which the certificate applies
- D. been appointed to prepare the drawings for the building in question

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## Sample Designer Legal/Process Questions

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29. A building permit may be revoked, if the chief building official is of the opinion that work has been substantially suspended:

- A. for a period of up to one year
- B. for six months after the permit was issued
- C. and an architect requests in writing that it be revoked
- D. for a period of more than one year

30. Sentence 9.10.13.2.(1) of Division B references standards for "Twenty Minute Fire-Rated Closure Assemblies". The abbreviation CAN4 designates:

- A. Underwriters' Laboratories
- B. Underwriters' Laboratories of Canada
- C. Canadian General Standards Boards
- D. Canadian Standards Association

31. According to Article 9.1.1.8. of Division B, when a house is constructed in a flood plain, the building shall be designed and constructed to:

- A. incorporate floodproofing measures that will preserve the integrity of exits during flooding
- B. include raft foundations
- C. resist any earthquake loading
- D. resist corrosion due to flood water for not less than 100 years

32. Article 1.3.1.3. of Division C requires that, within specific time frames, the chief building official either must issue a building permit or refuse to issue a permit and provide the reasons why the permit is not being issued.

For a post-disaster building, that time frame is set at:

- A. 10 days
- B. 15 days
- C. 20 days
- D. 30 days

33. Clause 2.1.1.1.(1)(b) of Division C informs us that the documentation proposing an alternative solution must demonstrate by past performance or test that the required level of performance will be achieved. Not considering past performance, to demonstrate that the alternative solution will achieve level of performance required by Division B when there are no test method published to establish the suitability of a proposed alternative solution, the test used must:
- A. be designed to simulate or exceed the anticipated service conditions of the alternative solution against that of the acceptable solution
  - B. be one that is described in Table 1.3.1.2. of Division B of the Code and is known to be acceptable
  - C. be designed to simulate and exceed the anticipated service conditions of the alternative solution against that of the acceptable solution
  - D. always be designed to compare the performance of the alternative solution against a similar material or system that is known to be acceptable under Division B
34. When the director of the Building and Development Branch issues a notice that new examinations are provided to replace the existing ones, one of the conditions of registration for a registered design firm is that they must notify the director of the names, addresses and information about new examinations that have been successfully completed by its officers, directors, partners, or employees not later than:
- A. 30 days after the notice is given
  - B. 90 days after the notice is given
  - C. 120 days after the notice is given
  - D. 180 days after the notice is given
35. According to Subsection 3.6.1.1. of Division C, the following individuals and/or firms are required to have insurance coverage:
- A. municipal inspectors
  - B. chief building officials
  - C. registered code agencies and designers
  - D. builders
36. According to Section 3.6. of Division C, if a designer has billed \$50,000 or less in the 12 months before the start of the policy, the designer is required to have an insurance policy with the following limits:
- A. \$1,000,000/claim & \$2,000,000 in the aggregate
  - B. \$500,000/claim & \$1,000,000 in the aggregate
  - C. \$250,000/claim & \$500,000 in the aggregate
  - D. \$50,000/claim & \$100,000 in the aggregate

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## Sample House Questions

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37. What is the minimum required thermal resistance for a front door to a house, where no storm door is installed?

- A. RSI 0.7
- B. RSI 1.4
- C. RSI 2.3
- D. the same thermal resistance as the wall in which the door is installed

38. The flame-spread rating of doors within a dwelling unit, other than vehicle garage doors:

- A. is NOT prescribed by the Building Code
- B. cannot exceed 150
- C. cannot exceed 200
- D. must be equal to that of the interior wall finish

39. Weep holes at the bottom of masonry veneer cavity walls shall be spaced:

- A. more than 800 mm apart
- B. NOT more than 400 mm apart
- C. more than 400 mm apart
- D. NOT more than 800 mm apart

40. According to Division B, Section 9.20., what is the minimum allowable length of bearing for wood floor joists on masonry?

- A. 90 mm
- B. 38 mm
- C. 40 mm
- D. wood joists are not permitted to bear on masonry

41. According to Division B, Part 9, holes may be drilled into roof truss members:

- A. that are no more than 12.7 mm in diameter
- B. where the holes have been allowed for in the design
- C. in accordance with Division B, Sentence 9.23.5.1.(1)
- D. that are no more than 1/3 the member depth in diameter and centered from both edges

42. Which construction material or component is required to have the following minimum physical characteristic; air leakage not greater than 0.02 L/(s·m<sup>2</sup>) measured at a 75 Pa air pressure differential?

- A. vapour barriers
- B. air barriers
- C. insulation
- D. windows

43. Consider a two storey, Division B, Part 9 house where a portion of the ground floor extends beyond the extent of the second floor exterior wall. During construction, it is proposed that a reinforced concrete slab be provided over the section of the ground floor that is NOT located within the boundaries of the second floor. The proposed slab will be used as a sundeck, and will be accessible from the second floor. According to Division B, Section 9.40:

- A. 35 MPa concrete must be used
- B. 20 MPa concrete can be used
- C. 15 MPa concrete can be used
- D. the concrete slab must be NOT less than 125 mm thick and the shortest span direction of the slab cannot exceed 2500 mm

44. When a door on the floor area of a one storey building provides direct access to the exterior, a bedroom window:

- A. must have a minimum unobstructed glass area equal to 5% of the bedroom floor area
- B. must have a minimum unobstructed glass area equal to 10% of the bedroom floor area
- C. is NOT required
- D. must provide an unobstructed open area of not less than 0.35 m<sup>2</sup>

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### Sample Small Building Questions

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45. In a multi-use one storey building, the following major occupancy need NOT be considered as major occupancies for the purposes of Division B, Articles 9.10.8.1. and 9.10.2.3.?

- A. a residential occupancy occupying 15% of the floor area
- B. an office occupancy occupying 40% of the floor area
- C. an office occupancy occupying 9% of the floor area
- D. a retail occupancy occupying more than 10% of the floor area

46. Minimum strip footing sizes in Division B, Table 9.15.3.4. cannot be used to support:

- A. concentrated beam loads
- B. flat insulating concrete form foundation walls
- C. 300 mm thick, 30 MPa poured concrete foundation walls
- D. 240 mm concrete block foundation walls

47. According to Division B, Part 9, wood columns in contact with concrete:

- A. shall be separated from concrete in contact with the ground by 0.05 mm polyethylene film
- B. shall be separated from the concrete by 0.05 mm polyethylene film
- C. must be pressure treated
- D. must be pressure treated with a chemical that is toxic to termites

48. Division B, Section 9.23. applies to the design of walls and floors which support floor live loads NOT exceeding:

- A. 2.4 kPa, where framing members are spaced more than 600 mm apart
- B. 4.8 kPa, where framing members are spaced no more than 300 mm apart
- C. 2.4 kPa, where framing members are spaced no more than 400 mm apart
- D. 2.4 kPa, where framing members are spaced no more than 600 mm apart

49. Plywood roof sheathing on a roof, not used as a walking deck, where rafters are spaced at 400 mm o.c., must have a minimum thickness of:

- A. 9.5 mm when tongue-and-grooved edged plywood is used
- B. 9.5 mm when edges are supported with H-clips
- C. 7.5 mm when fastened to the roof rafters
- D. 7.5 mm when edges are supported with H-clips

50. According to Division B, Subsection 9.4.4., what is the allowable bearing pressure for footings on dense sand when the water table is likely to be at the footing level in the spring time?

- A. 37.5 kPa
- B. 25 kPa
- C. 75 kPa
- D. 150 kPa

51. Consider Division B, Sentence 9.7.5.4.(1). A fixed window within a public corridor on the third floor extends down to within 600 mm of the floor. A guard is placed across the window. What lateral load is the top of this guard required to resist ?

- A. 0.75 kN/m and a concentrated load of 1.0 kN applied at any point
- B. 0.75 kN/m or a concentrated load of 1.0 kN applied at any point
- C. 0.75 kN/m or a concentrated load of 1.0 kN applied at midspan
- D. 1.5 kN/m evenly distributed horizontal load

52. What is the maximum force required to be exerted to open any exit door not located in a dwelling unit and serving more than one dwelling unit?

- A. 70 N
- B. 80 N
- C. 90 N
- D. 100 N

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## Sample Large Buildings Questions

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53. A three storey building with a 700 m<sup>2</sup> building area, contains two storeys of residential occupancy (7 dwelling units total) above a one storey mercantile occupancy. According to Division B, Article 3.1.3.1., what is the required fire-resistance of the floor assembly between the major occupancies?

- A. 2 hours
- B. 1 hour
- C. 45 min
- D. the fire-resistance rating associated with the more restrictive occupancy

54. Single storey sprinklered self-service storage buildings are required to be provided with access routes:

- A. as required under Division B, Subsection 3.2.5. for the appropriate 3.2.2. building classification, based on the number of streets the building will face
- B. 9 m wide or more
- C. so that a fire department pumper vehicle can be located in the access route and the unobstructed path of travel for the fire fighter is not more than 45 m from the vehicle to every opening in the building
- D. more than 9 m wide

55. For an underground rapid transit station, the roof of an interior stair that extends to the street level:

- A. may be of combustible construction
- B. must be of noncombustible construction
- C. is not permitted above ground level
- D. may be of combustible construction if sprinklered

56. A window in the exterior wall of an exit enclosure forms an angle of  $90^\circ$  with a window in the exterior wall of the residential building that the exit serves. Which of the following is accurate with respect to the requirements of the building code?

- A. no protection is required as the window in the exit is 1.5 m horizontally and 5 m above the window in the building
- B. in all cases the opening in the exit shall be protected with glass block with steel reinforcement in each vertical joint
- C. no protection is required as the window in the building is 3.5 m horizontally and 5 m above the window in the exit
- D. the window in the exit shall be protected by a sprinklered glazed wall assembly installed in conformance with ULC/ORD C263.1.

57. Consider a building without a fire department connection. Division B, Article 3.2.5.5. limits the unobstructed path of travel for the fire fighter from the fire department pumper vehicle to the:

- A. face of the building
- B. closest fire hydrant
- C. required access route
- D. principal entrance to the building

58. Consider aisles spaced every 15 seats in a theatre. If there are six rows of seats on each side of an aisle, what is the minimum required width of the aisle if:

the maximum travel distance along the aisle in the direction of an exit is 10 m, the aisle is constructed as a ramp with a 1 in 12 slope rising up to the egress doors at the back of the theatre?

- A. 1100 mm
- B. 1200 mm
- C. 1350 mm
- D. 586 mm

59. An interior ramp in a restaurant that is not located in a barrier-free path of travel, may have a maximum slope of 1 in:

- A. 12
- B. 22
- C. 8
- D. 10



60. Consider a four storey apartment building with floor to floor heights of 3 m. On the fourth floor, two bedrooms have openable exterior windows that are 1 m wide by 2.5 m high, and are within 600 mm of the floor. What type of glass must be used in these windows?

- A. float glass
- B. annealed glass
- C. safety glass
- D. design of glass is based on the CAN/CGSB-12.20 standard

61. According to Division B, Part 5, air barrier systems are NOT required to be:

- A. continuous across construction, control and expansion joints
- B. installed on the warm-side of the insulation
- C. continuous across junctions between different building assemblies
- D. continuous around penetrations through the building assembly

62. Which of the following does NOT describe the building code requirements for electrical lighting outlets in dwelling units?

- A. a receptacle controlled by a wall switch in a bedroom when a lighting outlet is not provided
- B. a wall switches at the bottom, but not at the top, of a stairway having twenty risers between the second floor and an unfinished attic
- C. a wall switch controlling a lighting outlet in a dining room
- D. a wall switch at the top of a stairway having eighteen risers between the ground floor and an unfinished basement

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### Sample Complex Buildings Questions

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63. Consider a lowrise Division B, Part 3 building that is required to be of noncombustible construction. In order to apply wall finishes to the interior reinforced concrete shear walls, 38 mm x 38 mm wood furring members will be attached directly to the concrete as permitted by Division B, Article 3.1.5.6. If the wall finish has a flame-spread rating of 75, the Building Code:

- A. requires the concealed space between the wall finish and the reinforced concrete shear walls to be fire stopped so that the area of the concealed space is not more than 2 m<sup>2</sup>
- B. does not permit the use of the combustible furring members
- C. requires the concealed space between the wall finish and the reinforced concrete shear walls to be fire stopped so that the maximum horizontal dimension is NOT more than 20 m
- D. does not require the space to be fire stopped

64. In an office suite of a four storey office building, that is not considered a high building, wooden interior doors are proposed. According to the Building Code, the maximum permitted flame-spread rating for walls and doors in the suite is:

- A. walls:150; doors: no requirement
- B. walls:150; doors: 150
- C. walls:150; doors: 200
- D. walls:200; doors: no requirement

65. Electrical wires, in totally enclosed noncombustible raceways, that penetrate a vertical fire separation with a required fire-resistance rating:

- A. must be tightly fitted
- B. must be tested in accordance with CAN/ULC-S101
- C. are not permitted
- D. are permitted provided the required fire-resistance rating of the fire separation is not more than 1 h

66. A tent with a ground area of 230 m<sup>2</sup> is proposed for an award ceremony at a university. Which Division B, Article(s) have to be complied with?

- A. Article 3.14.1.4.
- B. Article 3.14.1.9.
- C. Article 3.14.1.7.
- D. Articles 3.14.1.4. and 3.14.1.5. and 3.14.1.7., and others

67. A shelf and rack storage system used to store rubber tires in a Group F, Division 2 building:

- A. shall NOT exceed 7 m in height
- B. is not permitted
- C. shall not exceed 18 m in height
- D. can exceed 18 m in height

68. Consider a four (4) storey Division B, Part 3 sprinklered building with the following characteristics:

- 1) All floor assemblies constructed as fire separations with 1 hour fire-resistance ratings
- 2) Each storey contains multiple tenancies having different occupancy classifications
- 3) The third floor has a public corridor that is constructed as a fire separation with no fire-resistance rating. The public corridor conforms to Division B, Clause 3.3.1.4.(4)(b).
- 4) The third floor contains 8 office suites that occupy 90% of the floor area.

On the third floor there is one retail suite that occupies 10% of the floor area. What would be the required construction for the vertical wall between the retail suite and an adjoining office suite according to Division B, Article 3.3.1.1.?

- A. a fire separation having a fire-resistance rating of 1 h
- B. a fire separation having a fire-resistance rating of 45 min
- C. a fire separation having a fire-resistance rating of 0 h
- D. no fire separation is required

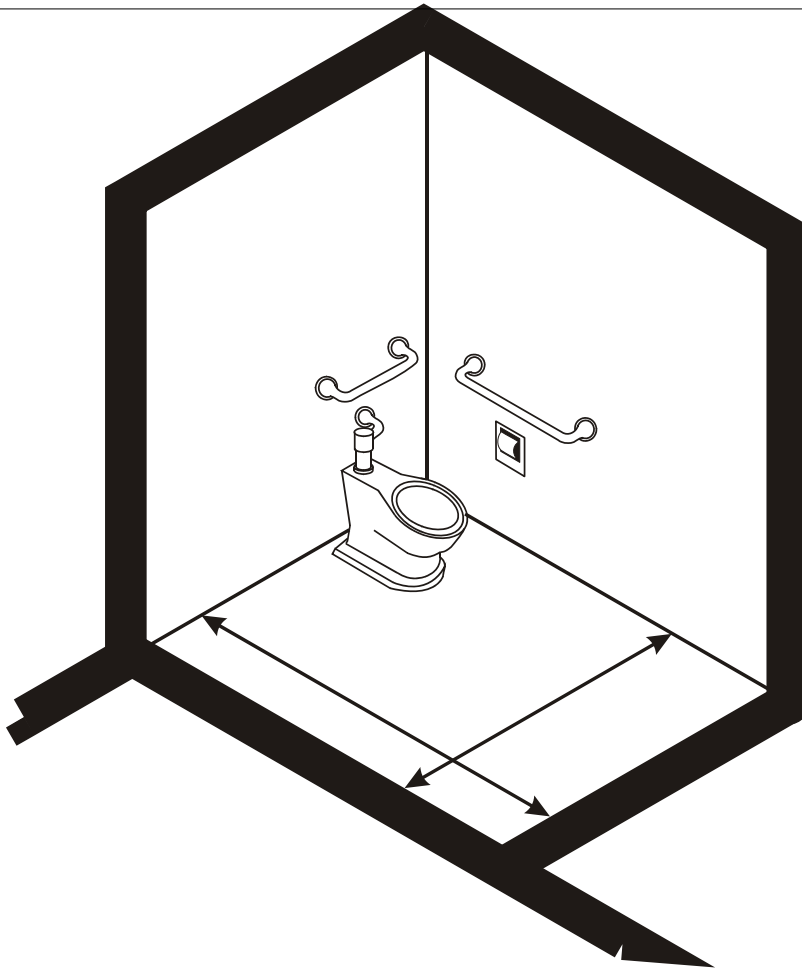
69. Which of the following is NOT a requirement to permit an exit from a four storey office building to lead through a lobby?

- A. no fire separation is required between the lobby and a security desk
- B. an elevator is permitted to open into the lobby provided its doors are designed to close when not loading or unloading
- C. the lobby must be sprinklered
- D. a fire separation is required between the lobby and the exit permitted to lead through the lobby

70. Which of the following best describe the minimum fire separation requirements for the elevator machine room of a sprinklered twenty-storey building designed in conformance with Division B, Article 3.2.2.49.?

- A. fire separation with a 1.5 h fire-resistance rating between the elevator machine room and the rest of the building except that a fire separation with no fire resistance rating is required between the elevator machine room and the elevator shaft
- B. fire separation with a 1.5 h fire-resistance rating between the elevator machine room and the rest of the building except that no fire separation is required between the elevator machine room and the elevator shaft
- C. fire separation with a 2 h fire-resistance rating between the elevator machine room and the rest of the building except that a fire separation with no fire resistance rating is required between the elevator machine room and the elevator shaft
- D. fire separation with a 2 h fire-resistance rating between the elevator machine room and the rest of the building except that no fire separation is required between the elevator machine room and the elevator shaft

71.



What is the minimum required width and depth of a water closet enclosure located within a washroom, if the enclosure is required to be barrier-free?

- A. 1500 mm x 1500 mm
- B. 1100 mm x 1500 mm
- C. 1700 mm x 1700 mm
- D. 1700 mm x 1500 mm

72. Determine the required minimum thickness of concrete cover over vertical steel reinforcement in a reinforced concrete column required to have a fire-resistance rating of 4h:

- A. 50 mm
- B. 62.5 mm
- C. 100 mm
- D. 25 times the number of hours or 50 mm, whichever is less

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## Sample Large Building Advanced Standing Questions

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73. Consider a 30 m long firewall dividing a sprinklered hockey arena. Select the largest aggregate opening(s) permitted in this firewall:

- A. 6.0 m wide by 3.6 m high
- B. 8.0 m wide by 2.4 m high
- C. 3.2 m wide by 6.4 m high
- D. three (3) openings - 2.8 m wide by 2.5 m high

74. In a rapid transit station, a 15 m<sup>2</sup> kiosk used only to collect fares, must be:

- A. sprinklered
- B. of noncombustible construction
- C. separated from the floor area by a fire separation
- D. sprinklered and of noncombustible construction

75. Rapid transit stations are required to have annunciators located:

- A. at an entrance to the rapid transit station
- B. within viewing distance of a designated collector's booth
- C. anywhere in the public areas of the station
- D. next to the central supervising station

76. A designer has determined that a tent will have a total occupant load of 250 persons. Determine the number of water closets that will be required to serve the tent.

- A. none, the requirements for sanitary facilities do not apply to tents
- B. 4 per sex
- C. 6 per sex
- D. 8 per sex

77. Horizontal roof beams used to support a roof top sign shall:

- A. not exceed 600 mm above the roof surface
- B. not exceed 600 mm above the roof surface if located in required fire fighter passages
- C. be permitted to exceed 600 mm above the roof surface, in any location, when the supports are connected to the tops of parapet walls
- D. not be permitted

78. Determine the maximum allowable height for a shelf and rack storage system used to store Class I, II, III or IV commodities, if each raised walkway has an  $H_p$  of 30 m, and are spaced vertically every 3.5 m. The ground floor travel distance from a perimeter stair to an exit door  $H_m$  is 60 m. (Note: there are no conveyors in the building)

- A. 6 levels
- B. 14 levels
- C. 15 levels
- D. 10 levels

79. If 55% of a building's perimeter is located within 15 m of an 8 m wide municipal road, the building is considered to be facing:

- A. one street
- B. two streets
- C. three streets
- D. no streets

80. In a multi-storey unsprinklered office building having a top storey 82 m above grade, an elevator provided for the use of fire fighters and serving all storeys above grade shall be provided with automatic emergency recall:

- A. in-car emergency service switches
- B. in-car emergency service switches, and electrical conductors protected against exposure to fire for a period of not less than 45 minutes
- C. and manual recall switches located at the building entrance
- D. in-car emergency service switches, interlocking doors with a mechanism rated for 1h

81. The fourth storey, which is also the top storey of a hospital contains patients bedrooms. The building is 19 m high, measured between grade and the underside of the roof assembly. The emergency power supply for the fire alarm system must be capable of providing supervisory power for 24 hours followed by full load operation for:

- A. 2 hours
- B. 24 hours
- C. 30 minutes
- D. 1 hour

82. Which of the following duct linings is NOT be permitted in a building required to be of noncombustible construction?

- A. a lining having a flame spread of 25 on any exposed surface
- B. combustible lining having a flame spread of 25 that has been interrupted at the an electric heater
- C. a lining having a smoke development of 75
- D. combustible lining having a flame spread of 25 that has been interrupted a fire separation

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### Sample Plumbing House Questions

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83. When is a mezzanine floor considered a storey for the purposes of Divison B, Part 7?

- A. whenever the mezzanine contains plumbing
- B. all mezzanines are considered storeys
- C. mezzanines are never considered as storeys
- D. when the mezzanine is located above another mezzanine

84. Which of the following pipe fittings may NOT be used in a vertical drainage system?

- A. cross fitting
- B. "Y" fitting
- C. double "Y" fitting
- D. double waste fitting

85. What is the maximum spacing of supports for normally horizontal plastic water pipe?

- A. 1200 mm
- B. 900 mm
- C. 1000 mm
- D. 750 mm

86. Which of the following is NOT an acceptable test for a venting system?

- A. final test
- B. air test
- C. water test
- D. ball test

87. Which of the following statements is true?

- A. an open tank filled with potable water may not be located in the same room as a soil or waste pipe
- B. a soil pipe may be located above an open tank filled with potable water
- C. a soil pipe may be located above an open tank filled with potable water providing the soil pipe is properly labelled "soil pipe"
- D. a soil pipe shall not be directly located above a non-pressure potable water storage tank

88. When a wet vent extends through more than one storey, the total discharge from any one storey above the first storey, must NOT exceed:

- A. 6 fixture units
- B. 4 fixture units
- C. 8 fixture units
- D. 2 fixture units

89. What is the maximum allowable static pressure in a water system piping located in areas that may be occupied?

- A. 50% of the water test pressure
- B. 585 kPa
- C. 550 kPa
- D. 60% of the water test pressure

90. An outlet from a non-potable water system shall NOT be located where it can discharge into a fixture, into which an outlet from a potable water system is discharged, or:

- A. only into a lavatory
- B. only into a sink
- C. into either a sink, lavatory or basin
- D. only into a basin

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## Sample Plumbing All Buildings Questions

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91. Noncombustible piping that penetrates a firewall, that separates buildings of assembly occupancy, shall:

- A. be sealed at the penetration by a fire stop system
- B. be sealed at the penetration using portland cement mortar
- C. be sealed at the penetration using generic fire stop materials
- D. not be permitted



92. For the purpose of determining the number of required plumbing fixtures in business and personal services occupancies, the occupant load can be based on a floor area per person of:

- A. 4.6 m<sup>2</sup>
- B. 14 m<sup>2</sup>
- C. 9.3 m<sup>2</sup>
- D. 46 m<sup>2</sup>

93. In a barrier-free washroom where a toilet paper dispenser is provided, at what minimum height must the dispenser be installed? Not less than:

- A. 900 mm above the floor
- B. 600 mm above the floor
- C. 840 mm above the floor
- D. 760 mm above the floor

94. Every direct flush valve shall be provided with a:

- A. pressure balancing regulator
- B. vacuum breaker
- C. means of regulating within 10% of the volume of water that it discharges
- D. means of regulating the volume of water that it discharges

95. Which of the following sealants may NOT be used on a floor flange joint?

- A. synthetic rubber gasket
- B. natural rubber
- C. silicon compound
- D. closet setting compound

96. What is the minimum required diameter for a manhole, at the top, serving a building sewer?

- A. 600 mm
- B. 1000 mm
- C. 1200 mm
- D. 1500 mm

97. A soil or waste stack that has a nominally horizontal offset more than 1500 mm long, and above which the upper vertical portion of the stack passes through more than 2 storeys and receives a hydraulic load of more than 100 fixture units, shall be vented by:

- A. additional offset vents
- B. offset circuit vents
- C. additional circuit vents
- D. offset relief vents

98. What is the maximum length permitted for a 2 inch branch vent, serving a hydraulic load of 50 fixture units?

- A. 15.0 m
- B. 18.0 m
- C. 24.0 m
- D. 30.0 m

99. Every pipe that passes through an exterior wall to supply water to the exterior of the building, may be provided with only a:

- A. hose bib
- B. waste valve
- C. stop valve
- D. stop-and-waste cock

100. Where may non-potable water piping be located above?

- A. a cover of the pressurized potable water tank
- B. non-pressurized potable water tank
- C. waste handling equipment
- D. food handling equipment

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## Sample HVAC House Questions

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101. Which of the following cities is located in a heating degree-day zone of 2?

- A. Petawawa
- B. Ottawa
- C. Huntsville
- D. Perry Sound

102. Consider a Division B, Part 9 building which will be used as a dwelling unit. The designer is using prescriptive requirements outlined in Division B, Subsection 12.3.3. The building is located in Zone 1 (i.e., less than 5000 heating degree-days). What is the required thermal resistance for above grade exterior walls?

- A. RSI 2.63
- B. RSI 4.67
- C. RSI 3.34
- D. RSI 3.80

103. Which is the permissible arrangement for the laundry dryer exhaust connection?

- A. combined connection with washroom exhaust
- B. discharge directly to the outdoors
- C. combined connection with kitchen exhaust
- D. discharge into the attic space

104. Which of the following piping systems is required to be insulated when it is exposed to human contact?

- A. deionized water piping
- B. steam piping with a surface temperature exceeding 70°C
- C. hot water piping with a surface temperature of 49°C
- D. cooling piping

105. Consider a 200 m<sup>2</sup> unheated crawl space in a residential occupancy. Where ventilation is provided by natural means, what is the minimum unobstructed vent area required?

- A. 0.5 m<sup>2</sup>
- B. 0.3 m<sup>2</sup>
- C. 0.4 m<sup>2</sup>
- D. 0.6 m<sup>2</sup>

106. Consider a single dwelling unit with a solid fuel fired combustion appliance, and a heat recovery ventilator. What is the acceptable relationship between the HRV supply air (S/A) and the HRV exhaust air (E/A) quantities? Assume there are no specific manufacturer recommendations.

- A. E/A quantity independent of S/A quantity
- B. E/A > S/A
- C. E/A < 90% S/A
- D. 90% S/A < E/A < 100% S/A

107. According to Division B, Subsection 9.32.3., when is an outdoor air supply inlet NOT required in a mechanical ventilation system coupled with a forced air heating system, that serves a house?

- A. in a Type III dwelling unit
- B. when there are solid fuel fired combustion appliances installed in the dwelling unit
- C. in a Type II dwelling unit
- D. in a Type I dwelling unit

108. In a dwelling unit that is within the scope of Division B, Part 9, a lighting outlet with fixture controlled by a wall switch is NOT required in a:

- A. vestibule
- B. dining room
- C. bedroom where a receptacle is controlled by a wall switch
- D. hallway

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## Sample Building Services Questions

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109. A small 400 m<sup>2</sup> convenience store has been designed in accordance with the prescriptive requirements of Division B, Part 12. The building will be 4 m high and will have a building perimeter of 80 m. What is the maximum permitted window area, if the windows have a coefficient of heat transfer of 2.28 W/ m<sup>2</sup>●°C?

- A. 128 m<sup>2</sup>
- B. 100 m<sup>2</sup>
- C. 112 m<sup>2</sup>
- D. 118 m<sup>2</sup>

110. According to the Building Code, a fire damper must be installed:

- A. in the plane of the fire separation
- B. perpendicular to the direction of the air movement
- C. perpendicular to the plane of the fire separation
- D. in the vertical position in all cases

111. Consider a five storey hotel that is provided with a fire alarm system and an automatic sprinkler system. Which one of the following areas is required by Division B, Part 3 to be equipped with a smoke detector?

- A. every room in a suite
- B. each sleeping room
- C. each corridor
- D. each exit stair shaft

112. According to Division B, Part 3, a smoke alarm must be provided:

- A. in a dwelling unit storage garage
- B. in a dwelling unit sleeping room
- C. in a sleeping room in a detention occupancy required to have a fire alarm system
- D. for a dwelling unit mezzanine

113. In a high building, the sprinkler system must be design in accordance with:

- A. NFPA 13R
- B. NFPA 13D
- C. NFPA 13
- D. NFPA 13S

114. According to the Building Code, except when a building is designed to accommodate accumulation of water at the building, a building within the scope of Division B, Part 5 shall be site graded so that surface water:

- A. will NOT accumulate against the building
- B. is permitted to accumulate against a dampproofed foundation wall
- C. is permitted to accumulate against a foundation wall when a drainage layer is provided
- D. shall be directed to storm management systems in all cases

115. According to Division B, Part6, the minimum required continuous general ventilation capability, per internal bay, of a repair garage is:

- A. 3.9 L/s per m<sup>2</sup> of bay floor area
- B. NOT specified
- C. 700 L/s
- D. the greater of 700 L/s /bay, or 3.9 L/s/M<sup>2</sup> of bay floor area

116. When adsorption type, odour removal equipment is used, air filters are provided to:

- A. facilitate reactivation or renewal of the adsorption media
- B. protect the adsorption media from dust accumulation
- C. serve as a secondary means of back-up to the adsorption media
- D. prevent dispersion of the adsorption media into the supply or exhaust air streams

117. Consider a 3 bedroom house in which the ducts are sized according to Division B, Section 9.32. A smooth round duct is connected to only one side of the principal exhaust fan and exhaust intake grille is directly connected to fan. If the total length of ductwork is 10 m, and includes 3 elbows, what is the minimum required size for the duct?

- A. 175 mm
- B. 100 mm
- C. 125 mm
- D. 150 mm

118. The following building or space, is NOT exempt from the energy efficiency requirements of the Building Code:

- A. a heritage building
- B. a warehouse that is designed to be maintained at 5°C
- C. an open-air storage garage
- D. a building space that uses energy at a rate of 22 W/m<sup>2</sup> for human comfort

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## Sample Building Structural Questions

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119. Which of the following structures is considered a designated structure by Division A Clause 1.1.2.2.(2)(c)?

- A. a communication tower on top of an 18 m high building
- B. ground based solar panel with a face area of 10 m<sup>2</sup>
- C. pedestrian bridge in a park
- D. 1.1 m high retaining wall next to the front walkway of a house

120. A guard has to be designed for a specified load of 0.75 kN/m in accordance with Division B, Article 4.1.5.15. What is the factored specified load required to design the guard for bending?

- A. 0.75 kN/m
- B. 1.125 kN/m
- C. 1.50 kN/m
- D. 1.25 kN/m

121. It is expected that the 2nd floor of a 10-storey building may accommodate a restaurant, a retail store or a library. What minimum uniformly distributed live load, that must be used in designing the 2nd floor?

- A. 7.2 kN/m<sup>2</sup>
- B. 4.8 kN/m<sup>2</sup>
- C. 2.9 kN/m<sup>2</sup>
- D. 2.4 kN/m<sup>2</sup>

122. Consider a building with a total lateral seismic force  $V = 3100$  kN,  $F_t = 100$  kN, and  $\Sigma W_i h_i = 1,000,000$  kN·m. "Storey x" has a weight,  $W_x = 1500$  kN and a height  $H_x$ , above the base of 20 m.

According to Division B, Article 4.1.8.11., what is the seismic force to be applied at that storey?

- A. 15 kN
- B. 45 kN
- C. 30 kN
- D. 90 kN

123. It has been determined that a glass window has to be designed as a guard in accordance with the specified loads in Division B, Sentence 4.1.5.15.(1). In accordance with what standard must the glass be designed?

- A. CAN/CGSB 12.20
- B. CAN/CSA A440
- C. CAN/CGSB 12.1
- D. CAN/CGSB 12.2

124. Pier foundations are to be used to support a Division B, Part 9 house. The building is 1 storey in building height; the distance between the piers that support the principal framing members is 3.5 m. 440 mm x 200 mm x 200 mm blocks will be stacked to form a column 440 mm x 410 mm. One 15M bar will be grouted in each of the voids. What is the maximum permitted height of the column measured from the top of the footing, if the footing is 600 mm below ground level and the footing is 200 mm thick?

- A. 1230 mm
- B. 1630 mm
- C. 1830 mm
- D. 1720 mm

125. For a Division B, Part 9 building with footings conforming to Division B, Section 9.15., how should the columns be placed on the footings?

- A. inside the middle third of footing width and length
- B. centrally located
- C. column centre to be within 150 mm of footing centre
- D. edge of column must be within edge of footing

126. A builder is proposing to use used blocks to construct a garage associated with a single family home. To what standard do the prescriptive requirements of Division B, Part 9 call for these used units to comply with?

- A. CSA A165.1
- B. CSA A165.2
- C. CSA A82.3
- D. used blocks cannot be used

127. A ridge beam for a building in Dunnville is being designed to the prescriptive Division B, Part 9 requirements. A symmetrical gable roof is to be placed over a 9 m x 9 m house. There is a loadbearing wall along the centre of the house from which a column supports the ridge beam above. The rafters are every 400 mm and are sloped at 1 in 2. Each rafter is tied at the bottom to a ceiling joist. If the ceiling rafter is spliced, how many 75 mm nails are required per splice connection?

- A. 4
- B. 8
- C. 5
- D. 7

128. According to Subsection 2.9.1. of Supplementary Standard SB-2, the minimum required cover to principle steel reinforcement in a 95 mm wide reinforced concrete beam comprising of Type S concrete, required to have a fire-resistance rating of 2 hours, is:

- A. 25 mm
- B. 39 mm
- C. 50 mm
- D. not authorized

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## Sample On-Site Sewage Systems Questions

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129. What is the total daily design sanitary sewage flow from a 6 bedroom dwelling with a finished area of 300 m<sup>2</sup>, and 28 fixture units?

- A. 3500 L
- B. 4400 L
- C. 3000 L
- D. 2500 L



130. Partitions separating a septic tank into compartments, shall extend above the liquid level at the outlet, by at least:

- A. 150 mm
- B. 250 mm
- C. 100 mm
- D. 200 mm

131. According to the Building Code a:

- A. Class 1 sewage system can be connected to a water source
- B. Class 1 sewage system can receive greywater
- C. Class 2 sewage system can receive human body waste
- D. Class 1 sewage system cannot receive greywater

132. For a percolation time of 18 min/cm, the length of distribution pipe required for a Class 4 sewage system constructed as a shallow buried trench serving a 6 bedroom dwelling is:

- A. 120 m
- B. 40 m
- C. 180 m
- D. 26.6 m

133. You are hired to design a Class 4 sewage system to service a building that generates a total daily design sanitary sewage flow of 1500 L. The T time of the soil is 20 min/cm. The owner wishes to construct an inground absorption trench, but does not want the trench length to exceed 100 m. According to Division B, Part 8, the length of the trench can be kept within the desired limit of 100 m, if:

- A. an inground filter bed is installed
- B. a raised filter bed is installed
- C. the system is constructed as a shallow buried trench type or if a treatment unit is used instead of the septic tank, in a conventional absorption trench system
- D. a Class 5 sewage system is installed

134. The sides of a leaching bed fill in a fill based absorption trench shall be sloped to ensure stability, and shall NOT be steeper than one unit vertically and four units horizontally, except when:

- A. the site has a slope of less than 30%
- B. measures are taken to prevent erosion and ensure stability of the leaching bed fill, the side slopes can be increased to two units vertically to seven units horizontally
- C. measures are taken to prevent erosion and ensure stability of the leaching bed fill, the side slopes can be increased to one unit vertically to three units horizontally
- D. the leaching be is constructed as a filter bed

135. Consider an existing 3 bedroom dwelling, that generates a sanitary sewage flow of 1600 L/day, and uses a holding tank. An additional bedroom has been proposed for this dwelling unit. An assessment of the capacity of the exiting sewage system revealed that the sewage system does NOT have sufficient capacity to handle the additional flow.

If the lot where the dwelling unit is located can accommodate a Class 4 sewage system, will the Building Code permit the addition of a holding tank to accommodate the additional flow?

- A. the Building Code would NOT allow for an addition to a dwelling that is serviced by a holding tank
- B. the Building Code allows for the upgrading of the existing sewage system with an additional holding tank
- C. provided the holding tank will accommodate a minimum daily design sanitary sewage flow of 7 days, the proposal would be acceptable
- D. the Building Code would NOT permit the proposed holding tank addition

136. The person authorized by the manufacturer to service a treatment unit, is required by the building code to notify the chief building official, if:

- A. the treatment unit was NOT in use for a period of time that exceeds 6 months
- B. the service agreement is terminated, or the access to service the unit is denied
- C. the treatment unit is operated below it's rated capacity
- D. there is a need to sample the effluent

137. Which of the following soil types would most likely have the permeability that is suitable for the construction of a sewage system?

- A. silty sand
- B. well graded gravel
- C. inorganic silts
- D. organic clay or high plasticity soils

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## Sample Detection Lighting and Power Questions

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138. A proposed building containing a Group D major occupancy, measures 37 m between the grade and the floor level of its top storey. Two exits are provided for each floor area. On a typical floor area, it is proposed that the required fire separation between the exit enclosures and the corridor be provided by a sprinkler protected glazed wall assembly. According to Division B, Part 3 the sprinkler protected glazed wall assembly:

- A. is NOT acceptable in this location
- B. is acceptable if the entire building is sprinklered
- C. is permitted on one of the exits
- D. can be installed as noted, if it complies with the requirements of ULC/ORD C263.1

139. According to the building code, a fire alarm system must be installed in a Rapid Transit Station. The detection and alarm system need not be provided with:

- A. manual pull stations
- B. an annunciator panel
- C. monitoring by a central supervising station
- D. emergency power for the fire alarm system

140. A fire alarm audible device within a dwelling unit:

- A. must be rated for a minimum sound pressure level of 85 dBA
- B. may include means for automatic silencing
- C. must incorporate a manual silencing switch
- D. can be wired on the same circuit as the audible devices in the public corridor, when an automatic silencing system is provided

141. Which of the following is NOT a requirement within the Central Alarm and Control Facility required by Division B, Part 3?

- A. means to indicate elevator recall status
- B. an annunciator
- C. means to selectively and manually actuate alarm signals
- D. a dedicated telephone line

142. A fire separation that separates an exit from the remainder of a building, is permitted to be penetrated by:

- A. gas piping
- B. an exit doorway
- C. exposed electrical wires
- D. exposed fire alarm system wires

143. Consider a proposed multiple storey office building, equipped with a passenger elevator with stops on each floor level. The typical storey contains multiple suites that open onto a public corridor. Within the suites, illumination:

- A. must be provided to average levels of NOT less than 10 lx at floor level
- B. is NOT required in a barrier-free path of travel
- C. is required in the barrier-free path of travel
- D. must be provided to average levels of NOT less than 50 lx at ceiling level

144. The supplemental exhaust for a water closet room in a Division B, Part 9 dwelling unit is provided by the principal exhaust fan. According to the Building Code, the manual switch:

- A. controlling the principal exhaust fan, must be located within each room served by the exhaust fan
- B. controlling the principal exhaust fan, must only be located in the water closet room
- C. controlling the principal exhaust fan, must be located in a central location within the dwelling unit
- D. can be located outside the water closet room

145. According to Division B, Part 9, in the event of an electrical lighting failure, emergency lighting in exits shall be designed to automatically actuate for a period of not less than:

- A. no minimum time limit for Division B, Part 9 buildings
- B. 30 minutes
- C. 45 minutes
- D. 1 hour

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## Sample Fire Protection Questions

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146. In a Division B, Part 9 residential building that has been in existence for more than 5 years, smoke alarms described in Division B, Subsection 9.10.19., need NOT be installed:

- A. with permanent connections to an electrical circuit having no disconnect switch between the overcurrent circuit device and the smoke alarm, if a compliance alternative in Division B, Table 11.5.1.1.C. permits it
- B. with permanent connections to an electrical circuit having no disconnect switch between the overcurrent circuit device and the smoke alarm, if a compliance alternative in Division B, Table 11.5.1.1.C. permits it, and the chief building official is satisfied that compliance with the requirement is impractical
- C. with permanent connections to an electrical circuit and have no disconnect switch between the overcurrent circuit device and the smoke alarm, if in a dwelling unit there are not more than 5 bedrooms
- D. in conformance with the manufacturers instructions

147. The maximum aggregate width of openings in a firewall is limited to NOT more than:

- A. 11 m<sup>2</sup> in unsprinklered buildings or 22 m<sup>2</sup> in sprinklered buildings
- B. 25% of the length of the largest fire compartment on either side of the firewall
- C. 25% of the entire length of the firewall
- D. 30% of the entire length of the firewall

148. The fire-protection rating for fire dampers must be determined on the basis of results of tests conducted in conformance with the provisions of:

- A. CAN/ULC-S112-M, "Fire Test of Fire-Damper Assemblies"
- B. CAN4-S104-M, "Fire Test of Door Assemblies"
- C. CAN/ULC-S101-M, "Fire Endurance Tests of Building Construction and Materials"
- D. Supplementary Standard SB-2

149. Consider Division B, Article 3.14.1.9. and identify the statement that is applicable to tents. Fire fighting access:

- A. is required to be provided to all tents that exceed 225 m<sup>2</sup> in ground area
- B. is required to be provided to all tents
- C. in accordance with Division B, Subsection 3.2.5. or 9.10.19. as the case may be, is required to be provided to all tents
- D. in accordance with Division B, Subsection 3.2.5. or 9.10.19. as the case may be, is required to be provided to all tents that exceed 225 m<sup>2</sup> in ground area

150. According to Division B, Article 3.2.4.9., a fire alarm system in a sprinklered building is required to provide electrical supervision for which condition?

- A. a significant change in water level in any water storage container
- B. movement of a valve handle that controls the supply of water to the boilers
- C. loss of power to any automatically starting pump
- D. loss of air pressure in a pressure tank

151. A 25 storey residential apartment building is required to be provided with a standpipe system. The building contains two basement storeys that are unheated and proposed to be used as a storage garage. The standpipe system piping serving the required hose stations in the storage garage:

- A. must be designed as a dry system arranged to automatically admit water through the use of a listed device
- B. must be designed as dry system
- C. may contain water provided adequate measures are taken to prevent the water or piping from freezing
- D. must be designed as a dry system arranged to automatically admit water through the use of a listed device that is capable of sending a signal to an attended location

152. Where untested wired glass is permitted in a vertical fire separation, the area of wired glass not structurally supported by mullions must not exceed:

- A. 7.5 m<sup>2</sup>
- B. 0.8 m<sup>2</sup>
- C. 1400 mm
- D. 20 mm

153. Which non-loadbearing 1 h wall assembly described below, as taken from SB-3 of the Supplementary Standards to the Building Code, would comply with the code for the minimum sound transmission class rating between dwelling units located within the same building? 31 mm X 64 mm X 0.46 mm steel studs spaced:

- A. 600 mm o.c. with 65 mm thick absorptive material and 15.9 mm Type X gypsum board each side
- B. 400 mm o.c. with 65 mm thick absorptive material with 15.9 mm Type X gypsum board each side
- C. 600 mm o.c. with 65 mm thick absorptive material with 15.9 Type X gypsum board one layer on one side and two layers on the other side
- D. 400 mm o.c. with 65 mm thick absorptive material with 12.7 Type X gypsum board one layer on one side and two layers on the other side

154. Using Supplementary Standard SB-2, determine the minimum thickness of Type X gypsum wallboard protection required for a W360x39 steel column that is required to have a fire-resistance rating of not less than 2 h. (Member dimensions: flange width  $b=128$  mm, depth  $d=353$  mm, mass= $39.1$  kg/m)

- A. 50.8 mm
- B. 47.6 mm
- C. 44.5 mm
- D. 63.5 mm

155. Under what set of conditions in Supplementary Standard SB-4, can a high building have open corridors?

- A. measure B all occupancies, and measure C in Group A, C, D, E or F major occupancy classification
- B. measure B all building heights, and C when building is more than 75 m high
- C. measure B with no restrictions on movement of smoke, and C when the building is sprinklered
- D. measure B and C with additional restrictions on movement of smoke

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## Sample Fire Protection Advanced Standing Questions

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156. Before accepting the use of an alternative solution, the Chief Building Official must be satisfied that:
- A. the person that requested the use of the alternative solution has demonstrated on the basis of past performance that conformance with a requirement of the Building Code will be achieved
  - B. the performance level achieved by using an alternative solution will not be less than the performance required by the applicable acceptable solutions in respect of the objectives and functional statements attributed to the applicable acceptable solutions in Supplementary Standard SA-1
  - C. the use of a compliance alternative was not practicable
  - D. compliance with a requirement of Division B, Part 3, 4, 5, 6, 7, 8 or 9 and the corresponding compliance alternative is impracticable because of structural and construction difficulties
157. A firewall in a Group A occupancy has a fire-resistance rating of 2 hours. If the firewall terminates on the underside of a reinforced concrete roof slab, the concrete roof slab must:
- A. have a fire-resistance rating of at least 2 hour
  - B. have a fire-resistance rating of at least 1 hours
  - C. consist of a minimum 20 MPa concrete
  - D. permit the firewall to extend 150 mm above the top of the roof surface
158. Manual pull stations on the first storey of a multi-storey self-service storage building:
- A. need NOT be provided
  - B. are required only in corridors
  - C. must be installed at every door between the individual storage units and interior corridors, and at the required exit doors
  - D. are required only at exit doors
159. Leased areas in a rapid transit station shall be:
- A. separated from the remainder of the floor area by a fire separation having a 1h fire-resistance rating
  - B. sprinklerd
  - C. sprinklered and separated from the remainder of the floor area by a fire separation of noncombustible construction that is not required to have a fire-resistance rating
  - D. separated from the remainder of the floor area by a fire separation of noncombustible construction that is not required to have a fire-resistance rating



160. A tent with a ground area of 220 m<sup>2</sup> contains bleachers. According to the Building Code, the following parts of Division B of the Code need NOT be complied with:

- A. Article 3.14.1.4.
- B. Article 3.14.1.6.
- C. Article 3.3.2.8.
- D. Subsection 3.2.2.

161. The 5th level of a shelf and rack storage system is permitted to be served by a single unenclosed egress stair leading to the 4th level, if the:

- A. 5th level is not more than 200 m<sup>2</sup> in area, the travel distance of the 4th level, including the single egress stair, is not more than 25 m
- B. 4th level is not greater than 200 m<sup>2</sup> in area
- C. building is sprinklered
- D. 5th level is not more than 200 m<sup>2</sup> in area, the travel distance on the 5th level, including the single egress stair, is not more than 25 m, and the 4th level is served by two separate egress stairs

162. A new one storey unsprinklered building, with a building area of 1550 m<sup>2</sup>, has been designed as a hockey arena. However, subsequent to the design being completed, the owner has informed the designer that the arena will be used as flea market from time to time. What must the designer now incorporate in the design?

- A. provide a 1 h fire-resistance rating to combustible roof assemblies
- B. ensure the design is of noncombustible construction
- C. provide a sprinkler system
- D. provide a 1 h fire-resistance rating to combustible mezzanines

163. Which of the following Division B, Articles waives the requirement for the installation of heat detectors in certain building areas?

- A. 3.2.4.15.
- B. 3.2.4.10.
- C. 3.2.4.9.
- D. 3.2.4.12.

164. A new high rise hotel has the floor level of the top storey 80 m above grade. There is an interconnected floor space connecting the top 6 storeys. The exit stair shafts that serve all storeys above grade must be:
- A. separated from the remainder of the building with a fire separation having a 2 h fire-resistance rating and be pressurized
  - B. pressurized
  - C. separated from the remainder of the building with a fire separation having a 2 hour fire-resistance rating and be protected with a pressurized or vented vestibule that is separated from the remainder of the floor area with a fire separation having a 2 h fire-resistance rating
  - D. separated from the remainder of the building with a fire separation having a 1 h fire-resistance rating, and be protected with a pressurized or vented vestibule that is separated from the remainder of the floor area with a fire separation having a 1 h fire-resistance rating

165. Which of the following is not applicable to electric revolving doors?
- A. it may be considered to have an exiting capacity of more than 45 persons
  - B. the door leaves will collapse and stop automatic rotation of the door system if a force 90N is applied at the centre of a door leaf
  - C. hinged doors with equivalent exit capacity must be located adjacent to the revolving door
  - D. the door leaves must be capable of being opened from inside the building without requiring specialized knowledge of the door opening mechanism

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**end of sample exam**

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**Answers to Sample Examination, November, 2009**

No.	Code/Act Reference 1	Code/Act Reference 2	Answer
<b>General Legal/Process Questions</b>			
1	Division A, 1.3.1.2.(1)		B
2	BCA, 13(3)		C
3	BCA, 15.11(6)		A
4	BCA, 6.2(1)		B
5	BCA, 8(12)		C
6	Division B, 10.3.2.2.(7)	Division B, 3.2.2.47.	A
7	Division B, 11.4.2.2.(2)	Division B, 3.2.4.1.(2)	A
8	Division C, 2.2.1.3.(1)	BCA, 24(1)(c)	A
9	Division C, Table 3.5.2.1.	Division C, 3.5.2.1.(1)	B
10	Division C, 3.7.4.5.(2)(e)		A
<b>Powers and Duties of Chief Building Official Questions</b>			
11	BCA, 13(1)		D
12	BCA, 15.11(4)		C
13	BCA, 15.18(2)		B
14	BCA, 6.1(3)		B
15	Division B, 11.2.1.1.(1)(a)	Division B, Table 11.2.1.1.A.	A
16	Division C, 1.3.1.3.(1)	Division C, Table 1.3.1.3.	D
17	Division C, 3.2.5.1.(1)	Division C, 3.2.2.2.(1)	D
18	Division C, Table 3.5.2.2.	Division C, 3.5.2.2.(1)	C
19	Division C, 3.7.6.3.(3)(a)		A
<b>Powers and Duties of Registered Code Agencies Questions</b>			
20	Division A, 1.1.2.2.(2)(c)	Division A, 1.3.1.1.(1)	B
21	BCA, 1.1(3)(c)		B
22	BCA, 15.15(1)3.		A
23	BCA, 3(5)		B
24	BCA, 35(1)		C
25	Division B, 11.2.1.1.(1)(a)	Division B, Table 11.2.1.1.A.	A
26	Division C, 3.2.5.1.(2)(e)		B
27	Division C, Table 3.5.2.2.	Division C, 3.5.2.2.(1)	D
28	Division C, 3.7.4.3.(5)		C
<b>Designer Legal/Process Questions</b>			
29	BCA, 8(10)(c)		D
30	Division A, 1.3.2.1.(1)		B
31	Division B, 9.1.1.8.		A
32	Division C, 1.3.1.3.(1)	Division C, Table 1.3.1.3.	D
33	Division C, 2.1.1.2.(1)	Division C, 2.1.1.1.(1)(b)	A
34	Division C, 3.2.4.7.(1)(c)		D
35	Division C, 3.6.1.1.(1)		C
36	Division C, 3.6.2.3.(1)(f)		C
<b>House Questions</b>			
37	Division B, 9.25.2.1.(1)	Division B, 12.3.2.7.(1)	A
38	Division B, 9.10.17.1.(3)		A
39	Division B, 9.20.13.8.(1)		D
40	Division B, 9.20.8.3.(3)		C
41	Division B, 9.23.5.5.(1)		B
42	Division B, 9.25.3.2.(1)		B
43	Division B, 9.40.1.4.(2)	Division B, 9.40.1.1.(1)(b)	D
44	Division B, Table 9.7.1.2.	Division B, 9.7.1.3.(1)	A

**Answers to Sample Examination, November, 2009**

No.	Code/Act Reference 1	Code/Act Reference 2	Answer
<b>Small Building Questions</b>			
45	Division B, 9.10.2.4.(1)		C
46	Division B, 9.15.3.3.(1)		A
47	Division B, 9.17.4.3.(1)		A
48	Division B, 9.23.1.1.(1)(b) & (d)		D
49	Division B, 9.23.15.7.(2)	Division B, 9.23.15.6.(2)	D
50	Division B, 9.4.4.3.(1)	Division B, 9.4.4.1.	C
51	Division B, 9.7.5.4.(1)(a)	Division B, 9.8.8.2.(1)	B
52	Division B, 9.9.6.8.(1)		C
<b>Large Building Questions</b>			
53	Division B, 3.1.3.1.(1)		A
54	Division B, 3.10.4.5.(2)		B
55	Division B, 3.13.2.1.(4)		A
56	Division B, 3.2.3.13.(1)	Division B, 3.1.8.18.(2)(d)(iii)	C
57	Division B, 3.2.5.5.(3)		D
58	Division B, 3.3.2.4.(11)		B
59	Division B, 3.4.6.6.(1)		D
60	Division B, 3.7.2.2.(4)	Division B, 4.3.6.1.(1)	D
61	Division B, 5.4.1.2.(3)		B
62	Division B, 9.34.2.3.(2) & (3)	Division B, 9.34.2.2.(1) & (2)	B
<b>Complex Buildings Questions</b>			
63	Division B, 3.1.11.2.(1)(c)		C
64	Division B, 3.1.13.2.(1)	Division B, 3.1.13.2.(2)	C
65	Division B, 3.1.9.1.(1)(a)		A
66	Division B, 3.14.1.2.(1)		D
67	Division B, 3.16.3.2.(3)		A
68	Division B, 3.3.1.1.(3)(a) & (b)		D
69	Division B, 3.4.4.2.(2)		C
70	Division B, 3.5.3.3.	Division B, Table 3.5.3.1.	B
71	Division B, 3.8.3.8.(1)(a)		A
72	SB-2, 2.8.3.(2)		B
<b>Large Building Advanced Standing Questions</b>			
73	Division B, 3.1.10.5.(1)	Division B, 3.1.8.6.(2)	A
74	Division B, 3.13.3.2.(1)	Division B, 3.13.3.2.(2)	B
75	Division B, 3.13.5.5.(1)(b)(iii)		B
76	Division B, 3.14.1.8.(1)	Division B, Table 3.7.4.3.E.	C
77	Division B, 3.15.5.1.(1)	Division B, 3.2.5.3.(2)(a)	B
78	Division B, 3.16.1.7.(7)(a to c)	Division B, 3.16.1.2.(4)	A
79	Division B, 3.2.2.10.(3)	Division A, 1.4.1.2.(1)	D
80	Division B, 3.2.6.8.(3) & (5)	Division B, 3.2.6.9.(3)	D
81	Division B, 3.2.7.8.(3)(a) & (b)(i)	Division B, 3.2.6.1.(1)(c)	A
82	Division B, 6.2.3.4.(2)	Division B, 6.2.3.4.(6)	C
<b>Plumbing House Questions</b>			
83	Division B, 7.1.3.1.(1)		A
84	Division B, 7.2.4.5.(1)		A
85	Division B, 7.3.4.5.(2)		C
86	Division B, 7.3.6.3.(1)		D
87	Division B, 7.4.6.2.(1)		D
88	Division B, 7.5.2.1.(1)(h)		B
89	Division B, 7.6.3.3.(1)		C
90	Division B, 7.7.3.2.(1)		C

**Answers to Sample Examination, November, 2009**

No.	Code/Act Reference 1	Code/Act Reference 2	Answer
<b>Plumbing All Buildings Questions</b>			
91	Division B, 3.1.9.1.(2)		A
92	Division B, 3.7.4.2.(1)		B
93	Division B, 3.8.3.8.(1)(g)		B
94	Division B, 7.2.10.8.		D
95	Division B, 7.3.3.8.(4)		C
96	Division B, 7.4.7.3.(3)		A
97	Division B, 7.5.4.4.(1)		D
98	Division B, 7.5.8.3.(2)		A
99	Division B, 7.6.1.9.(1)		D
100	Division B, 7.7.3.1.		C
<b>HVAC House Questions</b>			
101	Division B, 12.3.2.1.(4)		A
102	Division B, 12.3.3.3.(1)		D
103	Division B, 6.2.4.11.(3)		B
104	Division B, 6.2.9.2.(6)		B
105	Division B, 9.18.3.1.(2)		C
106	Division B, 9.32.3.11.(10)		D
107	Division B, 9.32.3.6.(2)		D
108	Division B, 9.34.2.2.(2)		C
<b>Building Services Questions</b>			
109	Division B, 12.3.4.2.(4)		A
110	Division B, 3.1.8.9.(3)		A
111	Division B, 3.2.4.11.(1)		D
112	Division B, 3.2.4.21.(2)		D
113	Division B, 3.2.5.13.(1)		C
114	Division B, 5.7.1.1.		A
115	Division B, 6.2.2.3.(8)	Division B, 6.2.2.3.(9) & (10)	C
116	Division B, 6.2.3.13.(3)		B
117	Division B, 9.32.3.4.(9)		D
118	SB-10		D
<b>Building Structural Questions</b>			
119	Division A, 1.1.2.2.(2)(c)	Division A, 1.3.1.1.(1)(a)	D
120	Division B, 4.1.3.2.(2)		B
121	Division B, 4.1.5.8.(1)	Division B, Table 4.1.5.3.	A
122	Division B, 4.1.8.11.(6)		D
123	Division B, 4.3.6.1.(1)		A
124	Division B, 9.15.2.3.(3)		B
125	Division B, 9.17.2.1.(1)		B
126	Division B, 9.20.2.2.(1)		D
127	Division B, 9.23.13.8.(6)	Division B, Table 9.23.13.8.	C
128	SB-2, 2.9.1.(1)		D
<b>On-Site Sewage Systems Questions</b>			
129	Division B, 8.2.1.3.(1)		A
130	Division B, 8.2.2.3.(5)		A
131	Division B, 8.3.1.2.(1)		D
132	Division B, 8.7.3.1.(1)		B
133	Division B, 8.7.3.1.(3)		C
134	Division B, 8.7.4.2.(9) & (10)		C
135	Division B, 8.8.1.2.(1)		D
136	Division B, 8.9.2.3.(3)		B
137	SB-6		A

**Answers to Sample Examination, November, 2009**

No.	Code/Act Reference 1	Code/Act Reference 2	Answer
<b>Detection Lighting and Power Questions</b>			
138	Division B, 3.1.8.18.(2)(d)(i)	Division B, 3.2.6.1.(1)(a)(i)	A
139	Division B, 3.13.5.2.(1)	Division B, 3.13.5.4.(1)	A
140	Division B, 3.2.4.19.(13)	Division B, 3.2.4.19.(9)	B
141	Division B, 3.2.6.12.(2)(c) & (d) & (g)		D
142	Division B, 3.4.4.4.(1)(d)	Division B, 3.3.4.4.(6)	B
143	Division B, 3.8.1.6.(1)		C
144	Division B, 9.32.3.5.(7)		A
145	Division B, 9.9.11.3.(3)		B
<b>Fire Protection Questions</b>			
146	Division B, 9.10.19.3.(1)	Division B, 11.5.1.1.(2), C172	A
147	Division B, 3.1.10.5.(1)		C
148	Division B, 3.1.8.4.(1)(c)		A
149	Division B, 3.14.1.9.(1)		B
150	Division B, 3.2.4.9.(2)(d)		D
151	Division B, 3.2.9.2.(8)	Division B, 3.2.5.18.(1)	C
152	Division B, 9.10.13.5.(3)	Division B, 9.10.13.5.(1)	A
153	Division B, 9.11.2.1.(1), STC 50	SB-3, Wall S2A	C
154	SB-2, 2.6.4.(1) & (2)	SB2, Table 2.6.1.F.	C
155	SB-4, SECTION 1	Measure B & C	A
<b>Fire Protection Advanced Standing Questions</b>			
156	Division A, 1.2.1.1.(1)		B
157	Division B, 3.1.10.3.(2)(a)(i)		B
158	Division B, 3.10.3.3.(3)		B
159	Division B, 3.13.3.4.(1)		C
160	Division B, 3.14.1.2.(1)	Division B, 3.14.1.7.(1)	D
161	Division B, 3.16.1.7.(3)		D
162	Division B, 3.2.2.32.(3)	Division A, 3.1.2.1.(1)	C
163	Division B, 3.2.4.11.(2)	Division B, 3.2.4.15.(1)	A
164	Division B, 3.2.8.4.(1)	Division B, 3.2.8.4.(2)	C
165	Division B, 3.4.6.14.	Division B, 3.4.6.15.(2)	C