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Section-D

8. Modern concept of "Energy Efficient Buildings" has captured ground and are preferred over conventional buildings. State the reasons and benefits.
9. What are essential elements of perspective drawing ? Draw a model plan and explain the details.

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B.Tech. 5th Semester (Fire Technology and Safety)

F-Scheme Examination,

December-2017

BUILDING DESIGN AND DRAWING

Paper-FT-303-F

Time allowed : 3 hours]

[Maximum marks : 100

Note : (1) *Students have to attempt five questions in total. At least one question from each section must be attempted.*

(2) *Question No. 1 is compulsory.*

1. (A) *Write (T) for true and (F) for false statement.*
10×1=10
- (i) Building material which burn when heated before 750 deg C are called combustible.
- (ii) Class I building Materials have very low flame spread across the surface.
- (iii) Cement normally decompose at 800 deg. Celsius.
- (iv) Thermoplastic used in building construction will not melt on heating. <http://www.HaryanaPapers.com>
- (v) Horizontal cracks appearing on wall are sign of wall collapse.
- (vi) The height of spiral staircase should not be less than 30 feet.
- (vii) Fire resistance of external walls of warehouse should not be less than 4 hours.

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- (viii) Doors leading to staircase should open towards staircase.
- (ix) Buildings with more than 24 meters height are called High Rise Buildings as per NBC.
- (x) The diameters of Wet Riser/Downcomer pipe should not be less than 80 mm.
- (B) Fill in the blanks :** $10 \times 1 = 10$
- (i) 40 persons can pass through one unit width of Exit in minute.
- (ii) Unit width measurement of Two units for a staircase would be inches.
- (iii) Five Star hotels fall under Group of NBC.
- (iv) The time of evacuation from Type-3 buildings should not be more than minute/s.
- (v) Fireman's lift provided in the buildings should have capacity to carry minimum Persons.
- (vi) FAR is the ratio between Plinth area Area.
- (vii) Acoustic measures are made for reducing level.
- (viii) Building erected in Fire Zone No. 1 should conform minimum to construction of Type
- (ix) Enclosed staircase approachable from different floors in High Rise Building is considered as

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- (x) Travel distance to nearest staircase in Institutional buildings should not exceed meters.

Section-A

2. Draw a diagram of Emergency staircase in a High Rise Building, specifying each component and their importance with regard to safety.
3. How many types of Roofs are known to you? Indicate essential features of each of them specially safety concern during fire.

Section-B

4. What is High Rise Building? What fire safety measures are recommended by NBC for such buildings?
5. Are Thermal insulation and Acoustic insulation complimentary to each other? If yes, explain their essential features.

Section-C

6. How many types of Staircases you know? Explain essential features of staircase required for oldage home in low rise building.
7. Prepare a drawing for Single story residential building with Type-II constructional features. Plan dimensions as per your convenience and indicate scale.

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