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Roll No

FT-5003-CBGS

B.E. V Semester

Examination, June 2020

Choice Based Grading System (CBGS)

Fire Prevention and Protection Measures

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) Define occupancy load, travel distance and evacuation routes. Compare evacuation time with travel distance for two different occupancies.
b) Translate the principle factors of design consideration for phased evacuation in tall buildings.
2. a) Explain flaming combustion and extinguishment by its own combustion products of a wax candle with suitable diagram.
b) Compare the fire extinguishment process with water and water mist on common fire by considering suitable fuel.
3. a) Explain the simplified fire development with the help of aerosol, energy release and gas signatures.
b) Discuss light obscuration principle used in photoelectric smoke detector with suitable diagram.

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4.
 - a) What are the fire protection systems must be installed in assembly building with sub classification D4 as per national building code?
 - b) Explain the standard temperature time test of fire exposure for the structural components of building?
5.
 - a) How the size of refuse area must be calculated if A and n are area of all floor and number of floor respectively? Assume L is occupant load in meter square per person and x is the occupant density?
 - b) Calculate the required number of exits and unit widths for an assembly hall of capacity to accommodate 750 people?
6.
 - a) Give a brief note on model fire and life safety requirement of hotel building focusing on additional hazards?
 - b) What are the fire fighting installation requirements in model hospitals and nursing homes building?
7.
 - a) Explain the classification of fire alarm system based on working principle.
 - b) Explain phased evacuation of the building.
8.
 - a) Give four basic classification of fire fighting foam.
 - b) Write short note on chain breaking mechanism of dry chemical powder.

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