

**DIPLOMA IN FIRE SAFETY MANAGEMENT
(DFSTYM)**

Term-End Examination

December, 2011

**BSE-043 : STRUCTURAL FIRE PROTECTION
OCCUPANCIES AND COMMUNICATIONS**

Time : 3 hours

Maximum Marks : 75

Note : (i) *Please draw drawings which will fetch you more marks.*
(ii) *Attempt all questions. Please write neatly.*

1. Write *True* and *False* against correct statement. $5 \times 1 = 5$
- (a) Limestone are composed principally of calcium carbonates which decomposes at about 800°C into Free lime and Carbon dioxide.
 - (b) Concrete consist of aggregates cement and water.
 - (c) A 10 meter steel joint will expand 60 mm for 500°C rise of temperature.
 - (d) Composition of air before inhalation : Nitrogen-79%, Oxygen-17%, Carbon dioxide-4%.
 - (e) The pressure of carbon-dioxide in CO_2 Fire Extinguisher is 544 Ibs/PSI.

2. Fill in the blanks :

5x1=5

- (a) The foam layer prevents the vapors from the _____ surface reaching the combustion zone.
- (b) Some of the commonly used dry chemical powders are _____ and _____ (Any two).
- (c) CO₂ Extinguisher extinguishes fire by physical displacement of _____ .
- (d) _____ powder consists of a mixture of Potassium Chloride, Sodium Chloride and Barium Chloride.
- (e) Inhibitory factor of carbon dioxide is _____ to _____ .

3. Write short notes on *any 7* (seven)

7x5=35

- (a) Bricks and Concrete
- (b) Metals and Building Boards
- (c) Fire Test of elements of construction :
Stability, Integrity, Insulation
- (d) Care and maintenance of Small Gear
- (e) Factor affecting operation of Detectors
- (f) Types of Ventilation
- (g) Direct and Indirect Losses occurred due to Fire
- (h) Fire Service Communication
- (i) Compartmentation
- (j) Means of Escape

4. Give answer of *any three* :

3x10=30

- (a) What fire safety measures you will recommend for Malls and High-rise Buildings ?
 - (b) What are the land line and wireless based communication, which can be used for the Fire Service communication ?
 - (c) Define element of structure and describe various elements of structure with the help of neat sketch. What are the main fire tests ?
 - (d) Describe the types of Sprinklers, risk wise, recommended by the Fire Services in India.
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