

00342

**FIRE AND SAFETY REQUIREMENTS IN
DIFFERENT GROUPS OF BUILDS**

Term-End Examination

June, 2010

BSEI-026 : DFS

Time : 3 hours

Maximum Marks : 100

*Note : (i) All parts are compulsory except optional part of
Q. No - 2 and 3.
(ii) No answer will be attempted again.*

PART-A

- 1. True or False : 7x1=7**
- (a) Under the building code Group A pertains to Industrial Buildings. ()
 - (b) Under the building code Group B buildings pertain to Institutional Buildings. ()
 - (c) The nominal operation temperature of heat detector is 65°C. ()
 - (d) Sprinklers are designed to operate at set nominal temperature ranging from 57°C to 260°C. ()
 - (e) In case of Bomb threats, try to identify the caller and take as much information as possible. ()
 - (f) Under the Building code Group E pertains to business purpose buildings. ()
 - (g) Under the building code Group I pertains to Hazardous Building. ()

PART-B

Fill in the blanks :-

12x1=12

- (a) Group A Building are further divided in to lodging or rooming houses, family dwellings, dormitories and _____.
- (b) Subdivision A-4 pertains to _____.
- (c) Subdivision A-5 pertains to _____.
- (d) Under the building code Group B is _____.
- (e) Sub-division D-2 of the building code pertains to assembly building having a theatrical stage and fixed seats for less than _____ persons.
- (f) Metals used in a building are cast iron, _____, wrought iron, lead and zinc.
- (g) What does C.O.P.D stands for _____.
- (h) Glass is noncombustible but liable to _____ and falls out when exposed to high temperature.
- (i) A wet riser is a vertical pipe of not less than _____ internal diameter kept the permanently charged with water.
- (j) A dry riser is simply a vertical pipe which is normally kept _____ of water.
- (k) Column is defined as a _____ load bearing member.
- (l) Beams is stated to be a _____ load bearing member.

PART-C

Multiple choice questions :

9x1=9

- (a) Different members of construction in a building are :
- (i) Wall (ii) Stairs
 - (iii) Floors (iv) None of the above
 - (v) All of the above
- (b) Under the Building code sub division D-1 pertains to building having a theatrical stage and fixed seats of :
- (i) Over 300 persons
 - (ii) Up to 1000 persons
 - (iii) Over 1000 persons
 - (iv) All of the above
- (c) Sub-division G-3 of the building code pertains to building used to :
- (i) High Hazards Industries
 - (ii) Low Hazard Industries
 - (iii) Petroleum Industries
 - (iv) Textile Industries
- (d) In a fire, concrete rapidly dries and contracts between :
- (i) 130°C – 230°C
 - (ii) 400°C – 500°C
 - (iii) 700°C – 900°C
 - (iv) None of the above

- (e) The cement begins to decompose at :
- (i) 700°C
 - (ii) 300°C
 - (iii) 600°C
 - (iv) 250°C
- (f) In addition to metals, concrete and bricks the following materials also be used in construction :
- (i) Wired Glass
 - (ii) Copper light glazing
 - (iii) Fiber building boards
 - (iv) All of above
- (g) Walls can be divided in to two main types :
- (i) External walls
 - (ii) Load bearing and
 - (iii) Non Load Bearing Walls
 - (iv) All the above
- (h) The maximum time to be taken for evacuation should be :
- (i) 01 minutes
 - (ii) 05 minutes
 - (iii) 03 minutes
 - (iv) 10 minutes
- (i) Expansion ratio of the foam shall be between.
- (i) 500 to 1000 : 1
 - (ii) 201 to 1000 : 1
 - (iii) 50 to 400 : 1
 - (iv) None of the above

2. Short answer type 7 out of 10 will be attempted : $7 \times 6 = 42$
- (a) Write a short note on exposure hazard.
 - (b) What are the various elements of a structure ? State briefly.
 - (c) What are the main objectives of an emergency evacuation plan ?
 - (d) What do you understand by floor safety champion ? Enumerate his roles and responsibilities briefly.
 - (e) Briefly explain the fire resistance of metals.
 - (f) Briefly explain what is a pump.
 - (g) What do you understand by heat exchanger system ? State briefly.
 - (h) Explain briefly the pumps, glands and seals.
 - (i) What are primers ? What is their purpose ?
 - (j) What do you understand by fire resistance of glass ?
3. Long Answer type 3 out of 5 will be attempted : $3 \times 10 = 30$
- (a) During evacuation particularly in fire there are certain Do's and Don'ts to be followed. Narrate them.
 - (b) What is the purpose of cooling system ? Explain direct and indirect cooling system.

- (c) There are four types of positive displacement pumps. What are these ? Explain them briefly.
 - (d) Care and maintenance of pumps is critical to fireman. Explain how the same is to be carried out "during operations" and "after use" ?
 - (e) Briefly enumerate the following :
 - (i) Causes of pumps failing to prime.
 - (ii) Causes of the pump registering a decrease of vacuum while at work.
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