

Seat No. : _____

NB-123

December-2015

B.Sc., Sem.-V (Fire & Safety)

CC : Special Fire Hazard

Time : 3 Hours]

[Max. Marks : 70

1. (a) Why fire protection is needed and what is active and passive fire protection system ? Also give at least five names of each. 7

OR

Classify passive fire protection system and explain fire proof door giving the technical requirement of fire proof door.

- (b) Write short notes on any **three** : 7

- (1) Dampers
- (2) Wired glass windows
- (3) Characteristics of Mastics
- (4) Cable coating
- (5) Characteristics of fire proofing material

OR

Explain portable fire extinguishers, suitability of fire extinguishers according to fire classification and hydraulic testing of fire extinguishers.

2. (a) Explain fire ring main layout. How many categories the fire Hydrant system (based on hazard) has been divided ? 7

OR

What do you understand by dry risers and wet risers of buildings ? And explain the basic requirement of wet riser as per NBC.

- (b) Explain fire pump room, location of pump room for LH, OH, HH(B) occupancies. Also differentiate between Booster pump and Jockey pump. 7

OR

Write short notes on any **three** :

- (1) Flow test
- (2) Radiographic test
- (3) Holiday test
- (4) Above ground piping and underground piping

3. (a) Explain Sprinkler system and compare Hydrant System vs. Sprinkler System. 7

OR

Explain how fire sprinkler system works and use of fire sprinklers. Also draw sketch of sprinkler system.

- (b) Explain activation temperature of glass bulbs and operation of wet alarm valve. Also what is M.V.W.S. and where it is used ? 7

OR

What are the types of sprinkler system, different types of sprinkler heads and mounting requirements ?

4. (a) What is gaseous fire protection system and different types of gaseous extinguishing system available ? Mention Physical and chemical properties of FM-200. 7

OR

Explain CO₂ system, its usage, extinguishing properties and safety requirement.

- (b) What is inert gas system and difference between local application and total flooding ? Give advantages and disadvantages of inert gas. 7

OR

Give an overview of dry chemical powder system, physical properties of DCP and extinguishing properties of DCP.

5. Give the answer of following questions :

14

- (1) This is a passive fire protection system
 - (a) Smoke Management System
 - (b) Foam system
 - (c) Inergen system
 - (d) CO₂ local application
- (2) The fire door will not allow heat to travel from one side to another side
 - (a) Stability
 - (b) Integrity
 - (c) Insulation
 - (d) All
- (3) Write down the full form of NBC.
- (4) Petrol comes under which classification of Fire as per Petroleum Act.
 - (a) A
 - (b) B
 - (c) C
 - (d) D
- (5) It comes under class 'D' fire
 - (a) Wood
 - (b) Paper
 - (c) Petrol
 - (d) Sodium
- (6) Capacity of the fire bucket is minimum :
 - (a) 8 litres
 - (b) 9 litres
 - (c) 10 litres
 - (d) 12 litres
- (7) Extinguishers are effective only in _____ of fire.
 - (a) 1st stage
 - (b) 2nd stage
 - (c) 3rd stage
 - (d) None
- (8) The delivery hose IS code is
 - (a) IS 630
 - (b) IS 634
 - (c) IS 636
 - (d) IS 638
- (9) What is the full form of WAV ?
 - (a) Wet Alarm Valve
 - (b) Water Alarm Valve
 - (c) Wet Alarm Venting
 - (d) Water Actuation Valve
- (10) This colour on radiographic film indicates that weld joint is bad
 - (a) Dark
 - (b) Light
 - (c) White
 - (d) Yellow

- (11) In case of L.H. occupancy having 5 hydrant posts 100 mm pipe size used is :
- (a) 100% (b) 50%
(c) 40% (d) 30%
- (12) CO₂ is how much heavier than air ?
- (a) 1.25 times (b) 1.5 times
(c) 2 times (d) 3 times
- (13) NFPA code for CO₂ system is
- (a) Code-11 (b) Code-12
(c) Code-13 (d) Code-14
- (14) In extreme cold winters it is preferred to use this type of sprinkler system :
- (a) Wet sprinkler (b) Dry sprinkler
(c) Alternate (d) None
-