Instructions: (1) All questions are compulsory.
(2) Figures to the right indicate full marks of the question.
(3) Assume suitable additional data that may be necessary.

1. (a) Write the class of fire and extinguishment media to be used in case of:
   (i) Fire on lubricating oil
   (ii) Electrical insulation material of a live electrical cable.
   (iii) Tyres made of rubber kept in a godown
   (iv) Leaking acetylene gas cylinder on fire
   (v) Magnesium strips kept in a laboratory on fire.

   (b) Distinguish flashpoint to fire point.

   (c) What will happen in case, water is poured on a kerosine fire?

OR

1. (a) Distinguish Fire Triangle to Fire Tetrahedron of fire.

   (b) Write short notes on:
   (1) Classification of fire
   (2) Life cycle of fire
   (3) Role of Oxygen in Combustion.
2 (a) Define and explain briefly:
   (i) Coping
   (ii) Bond
   (iii) Bat
   (iv) Closer.

(b) Explain briefly any three parts of a super-structure.

OR

2 (a) Distinguish brick masonry to stone masonry. And give your preference.

(b) Give classification of building based on occupancy according to “NBC of India 1970’. Also explain each type briefly.

(c) Give short notes on Header and Parapet.

3 (a) In relation to fire hazards explain the following briefly:
   (i) Internal Hazard
   (ii) Personal Hazard
   (iii) Exposure Hazard.

(b) Explain grading of occupancies based on fire load.

(c) Discuss colour change pattern of concrete on heating.

OR

3 (a) What are the methods of protection of structure steel elements.

(b) Discuss in brief about passive and active fire protection system.

(c) Write the behaviour of Timber and Structural Steel on Fire.
4 (a) Define the following:
   (i) Means of escape
   (ii) Occupant load
   (iii) Travel distance.

(b) In relation to stairways as means of escape write short notes on the following:
   (i) Enclosure of stairways
   (ii) Loby approach stairways
   (iii) Fire escape or external staircase
   (vi) Doors in escape route.

OR

4 (a) What are the general requirements of means of escape?

(b) Write the escape route width and other specification of the following:
   (i) Internal staircase
   (ii) Doorway.

5 (a) Explain the basic goals of fire safety organisation Department. And write the objectives of Fire Suppression Division.

(b) Briefly explain the difference between Private and Public fire protection.

OR

5 Write short notes on:
   (a) Responsibility of Fire Prevention Division
   (b) Responsibility of Fire Maintenance Division.
   (c) Typical organisation structure of Small Fire Organisation.

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