First Year B. Sc. (Fire) Examination
April / May – 2003

Fire Fighting Equipment

Time : 3 Hours] [Total Marks : 70

Instructions : (1) All questions are compulsory.
(2) All questions carry equal marks.
(3) Draw neat sketch wherever required.
(4) Figures on the right hand indicate marks.

1 (a) What is the function of Hose reel Hose ?  2
(b) Explain the different types of hose couplings ?  2
(c) What is the function of water monitor and
Branch pipe in fire fighting system ? Explain different
 types of nozzle ?  10

OR

1 (a) What precautions do you propose to prevent
 damages of fire hose and maintain it properly in use ?  5
(b) What are the main characteristics of delivery hose ?  9

2 (a) Why hydraulics test is necessary for fire
 extinguisher ?  2
(b) With a neat sketch describe the principle,
 construction, operation and uses of Halon type fire
 extinguisher.  12

OR

2 (a) What is principle of fire Extinguishments ?  2
(b) Which chemicals are used as a Dry Chemical Powder ?  2
(c) With a neat sketch describe construction and operation of a water $\text{CO}_2$ (cartridge) type fire extinguisher.

3 (a) Differentiate between:

(i) Aluminium Extension ladder and Escape ladder.

(ii) Turn Table ladder and Hydraulic platform.

(b) Enlist terminology used to operate turn-table ladder.

(c) Explain slab Hook ladder with neat sketch.

OR

3 (a) What are the different types of hand extendable ladders used in fire service?

(b) What are the different uses of a ladder in fire service?

(c) With a neat sketch describe various parts of an Aluminium extension ladder.

4 (a) Explain the maintenance of Breathing Apparatus Set.

(b) Differentiate between open circuit and closed circuit type Breathing Apparatus Set.

(c) With neat sketch explain working of a closed circuit type Breathing Apparatus set.

OR

4 (a) Explain the Distress signal unit.

(b) Name the different type of Breathing Apparatus Set.

(c) What is function of pressure gauge and by pass value in Breathing Apparatus Set?

(d) What is primary chamber and secondary chamber? Draw line diagram of first stage pressure reduction in Breathing Apparatus Set?
5  (a) With the neat sketch explain the advantages and disadvantages of sluice value.

(b) Write short notes on following:
   (i)  Ball value
   (ii) Air release value

OR

5  (a) Classify the value according to the End Connection and Method of Operation.

(b) With a neat sketch explain the function of a butterfly valve.

(c) Enumerate usage and advantages of butterfly valve.