B.Tech. Degree VI Semester Examination in Marine Engineering May 2019

MRE 1603 SHIP FIRE PREVENTION AND CONTROL
(2013 Scheme)

Time : 3 Hours   Maximum Marks : 100

$(5 \times 20 = 100)$

I. (a) Describe the sources of Class A, B, C, D & E type of fires on a ship.   (8)
    (b) Explain the following terms: (12)
         (i) Fire tetrahedron   (ii) Spontaneous combustion   (iii) Limits of inflammability.

OR

II. (a) Explain the control measures put in place to prevent Class E fire in Engine room of a ship.   (10)
    (b) What are the various sources of Fire onboard a ship's accommodation space. What are the measures to be taken to prevent its occurrence?   (10)

III.   Explain SOLAS convention and the statutory requirements of firefighting system on a cargo ship.   (20)

OR

IV.   Write short notes on the following: $(4 \times 5 = 20)$
         (i)   Venting system for tankers
         (ii) Fire doors
         (iii) Escape means
         (iv) Fire tests

V.   Sketch and describe the different fire detection methods and types of fire detector heads fitted in the fire alarm circuits? How are these circuits tested?   (20)

OR

VI.   Sketch and describe different types of fire detector heads fitted in fire alarm circuits and explain the advantages and disadvantages of each type.   (20)

VII.   Sketch and describe a fixed CO_2 fire fighting system suitable for an engine room. Explain the safety precautions to be taken before releasing CO_2 into the Engine room.   (20)

OR

VIII.   Sketch and describe an Automatic sprinkler system for fire fighting on a passenger ship. Explain the functioning of the sprinkler head in the accommodation with a sketch.   (20)

IX.   Explain in detail about fire drills on ships and how a fire in the engine room is fought by the team work of ship staff. Mention the various safety precautions to be taken before re-entry after putting off a fire in the engine room.   (20)

OR

X.   Describe the methods of fighting fire in the accommodation of a ship. What are the precautions to be taken before and after the fighting?   (20)

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