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***B.Tech. Degree VI Semester Examination in Marine Engineering
May 2018***

**MRE 1603 SHIP FIRE PREVENTION AND CONTROL
(2013 Scheme)**

Time: 3 Hours

Maximum Marks: 100

(5 × 20 = 100)

- I. (a) Explain in detail fire chemistry and the principles of firefighting. (10)
 (b) Describe the classification of fire and describe the types of fire extinguishing agents used for extinguishing each class of fire. (10)
- OR**
- II. Write short notes on:
 (a) Fire tetrahedron. (7)
 (b) Spontaneous combustion. (7)
 (c) Importance of flammability limits. (6)
- III. Describe the statutory requirements for firefighting systems and equipment on cargo ships and passenger ships. (20)
- OR**
- IV. Write short notes on:
 (a) Ventilation system and venting system for tankers. (10)
 (b) Explain the requirements for electrical installations as per SOLAS convention. (10)
- V. Explain the principles of selection of fire detectors and discuss in detail the different types of fire detectors used in the engine room. (20)
- OR**
- VI. (a) Describe in detail the procedure for commissioning and periodic testing for sensors and detection system. (10)
 (b) Describe in detail the fire safety precautions to be taken on cargo ships and tankers during working. (10)
- VII. Explain in detail the requirements of firefighting pumps, hydrants and hoses, couplings and nozzles as per SOLAS convention. (20)
- OR**
- VIII. Write short notes on:
 (a) Breathing apparatus-types, uses and principles. (7)
 (b) Fire man's outfit – its uses and care. (7)
 (c) Dry chemical powder type portable fire extinguisher. (6)
- IX. Write short notes on:
 (a) Firefighting in port and drydock. (7)
 (b) Fire organization on ships. (6)
 (c) Procedure for re-entry after putting off fire in engine room. (7)
- OR**
- X. Explain with sketches what are the special precautions to be taken for prevention/fighting fire in a gas carrier ship? (20)