

INDIAN MARITIME UNIVERSITY
(A Central University, Government of India)
END SEMESTER EXAMINATIONS- DECEMBER 2018
Post Graduate Diploma in Marine Engineering (PGDME)
Semester: II
Fire Prevention and Control and Fire Fighting (PD11T3208)

Date: 22-12-2018
Time: 3 Hrs

Max Marks: 100
Pass Marks: 50

Part – A

Compulsory questions

10x3=30 Marks

1.

- a. Sketch and describe principle of 'Fire Triangle'
- b. Training requirement for making re-entry after putting off fire in isolated space.
- c. How to check the Gas Content of Carbon Dioxide Cylinders used for flooding Engine room.
- d. Sketch a smoke detector.
- e. Write short notes on EEBD.
- f. Describe fireman outfit.
- g. What is Dead Man Alarm.
- h. What is SCBA.
- i. Write notes on Fire Control Plan.
- j. List out the safeties associated with Inert gas system.

Part – B (Answer any Five)

2. a) Sketch and describe principle of 'Fire Quadrant'. (3)
b) Explain upper flammability limit, lower flammability limit and explosive zone. (3)
c) What is hazard arising from static electricity in tanker and describe how the effect of this hazard is mitigated in tanker operation. (8)
3. a) Sketch and describe CO₂ portable fire extinguisher. (8)
b) How to use CO₂ extinguisher and precautions to be taken while using the same. (3+3)

4. a) Describe in detail Emergency Fire Pump and International shore coupling. (4+4)
- b) Sketch fire water line of cargo ship. (6)

5. With reference to an automatic water sprinkler, fire detecting, alarm and extinguishing system for accommodation spaces:
 - a) Sketch a typical system (8)
 - b) Describe the operation of this system. (4)
 - c) State the sources of water available (2)

6. a) How propagation of fire is controlled on ship. (3)
- b) What is classification of bulkheads and under how many heads this classifications are made in SOLAS chapter II-2. (3)
- c) Discuss the classifications in detail. (8)

7. a) Sketch and describe High pressure Water mist Fire suppression system. (10)
- b) Explain the principle of fire suppression in this system. (2)
- c) Indicate the places are cover on ship by this arrangement. (2)

8. a) Indicate TEN equipment those need to be maintained regularly for mitigating the fire emergencies. (7)
- b) Indicate the performance test and pressure test schedule for portable fire extinguishers. (7)

9. a) What are the objectives of Fire Safety (3)
- b) Describe how to prepare for and mitigate fire emergencies. (3)
- c) Describe SOLAS Requirement of Fire prevention by controlling Probability of Ignition (4)
- d) Describe SOLAS Requirement of Fire prevention by controlling Fire Growth potential (4)
