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**Seventh Semester B.E. Degree Examination, Dec.2018/Jan.2019**

**Advanced Marine Technology**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions, selecting at least TWO questions from each part.**

**PART – A**

- 1 a. What are the mandatory alarms and monitoring systems in UMS ships for:
  - i) Fuel oil
  - ii) Lub oil
  - iii) Turbo charger
  - iv) Piston cooling
  - v) Cylinder cooling system of the propulsion systems. (10 Marks)
- b. Briefly explain the mandatory requirements for UMS ships as per SOLAS. (10 Marks)
- 2 a. What are the types of containment systems used on LNG carriers? Draw and explain any one of them. (10 Marks)
- b. Explain with the help of a sketch a cascade direct cycle reliquification cycle used for fully refrigerated cargoes. (10 Marks)
- 3 a. What is a ESD (Emergency Shut Down System)? What are the factors leads to its initiation? (10 Marks)
- b. What is a E-motor room? Explain its layout with the help of a neat sketch. (10 Marks)
- 4 List a minimum of the 20 safe practices on-board chemical tankers, when handling Noxious chemical cargo. (20 Marks)

**PART – B**

- 5 a. Briefly explain:
  - i) Pre MARPOL Tanker (10 Marks)
  - ii) MARPOL Tanker. (10 Marks)
- b. Draw and explain a 1G system present on an oil tanker. (10 Marks)
- 6 a. With a neat sketch, explain the mid ship section of a car carrier. (10 Marks)
- b. Explain the two types of dielection ventilation used in car carriers. (10 Marks)
- 7 What is a combination bulk carrier? Briefly explain the two types with neat sketches. (20 Marks)
- 8 a. What is a MAPEX system? Explain briefly the MAPEX-CR and MAPEX-PR systems. (10 Marks)
- b. With the help of a neat sketch, explain the key features of a RT-flex common rail fuel system. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.