

Indian Maritime University

(A Central University, Govt of India)

May-June 2018 End Semester Examinations

B Sc (Nautical Science)

Semester-II

Marine Engineering, Automation and Control System Paper II UG21T2212

Duration: 3 Hrs
Date: 30.06.2018

Max Marks:70 Marks
Pass Marks:35 Marks

Note: Question No.1 is compulsory.

Answer any 6 Questions from remaining 8 Questions (each of 10 marks).

Scientific Calculator is permitted if required.

1. a) List out the services/equipments to which power is supplied from the emergency generator (2 Marks)
- b) How are ships classified as per the propulsion plants? (2 Marks)
- c) How are Engineering Materials classified? (2 Marks)
- d) What are the uses of ceramics? (2 Marks)
- e) Name a few auxiliary systems in E/R (2 Marks)

2. a) How is an electrical motor coupled to the purifier drive? Why this type of coupling is used? (5 Marks)
- b) Explain the procedure of maintenance of batteries onboard a ship (5 marks)

3. a) Explain the procedure for starting emergency generator manually (5 Marks)
- b) Draw & explain a navigational lighting circuit fitted with indicators/alarms and connected to both main and alternate/emergency power source (5 Marks)

4. a) Name a few supporting pipeline system for the main engine plant

(5 Marks)

b) Name some machineries found in an engine room of a ship

(5 Marks)

5. a) How are ceramics classified?

(5 Marks)

b) Where should the emergency generator be located on ship

(5 Marks)

6. a) Name the various metals & alloys used in ship construction

(5 Marks)

b) Explain the how steel is produced by smelting and refining process

(5 Marks)

7. a) Draw an iron-carbon diagram to show role of carbon in steels and effect on properties

(5 Marks)

b) What are the different types of steel & their uses?

(5 Marks)

8. a) Explain Annealing

(5 Marks)

b) Explain Hardening

(5 Marks)

9. a) Explain Normalising

(5 Marks)

b) Explain Tempering

(5 Marks)
