

Indian Maritime University
(A Central University, Govt of India)

March/April 2024 - Supplementary Examinations

Programme Name: B Sc (NS)

Semester: III

Subject Code: UG21T5303

Subject Name: Marine Engineering Automation and Control System-I

Date: 27.03.2024

Max Marks: 70

Duration: 03 Hrs

Pass Marks: 35

General Instructions

- (i) All Sections (A, B & C) are to be attempted.
- (ii) Options, if any, are specified in respective section.

Section A (Answer all questions)

Choose the correct answer as applicable (1x10).

1. Mild Steel contains carbon.
a) 1-2% b) 0.1-0.4% c) 0.6-1% d) 0.01-0.2%
2. Which of the following element is added to make alloy steel?
a) Nickel b) Vanadium c) Chromium d) All of these
3. Alternators are used for
a) Electric power generation b) Change AC voltage to DC voltage
c) Cathodic protection d) None of them
4. Electric fuses are
a) Protective device b) Controlling device
c) Measuring device d) All of the above
5. The main propulsion engine is located at
a) Bottom platform b) Middle platform
c) Upper platform d) Any of these
6. Hydrophore tank is employed in
a) Fuel system b) Lubricating system
c) Air system d) Domestic fresh water system
7. Soot blowers are incorporated in
a) Boiler b) Air compressor c) Purifier d) Diesel engine
8. Which of the following pump is suitable for Main sea water pump
a) Centrifugal b) Gear c) Screw d) Reciprocating
9. Hunting gear is a part of
a) Steering gear system b) Windlass c) Deck crane d) None of these

10. Which among the following components are found in hydraulic system
1. Pump 2. Actuator 3. Filter
a) 1 & 2 only b) 1 & 3 only c) 2 & 3 only d) 1, 2, & 3

Section B

Answer all questions (2x5).

11. Name any two heat treatment process for steel
12. What are the services supplied from emergency generator?
13. How is vacuum is generated in a flash type evaporator?
14. Write any two purpose of compressed air on-board
15. What is waste heat recovery boiler?

Section C

Answer any Five (5x7).

16. What are the important mechanical properties of engineering materials?
17. a) Describe maintenance procedure of batteries.
b) Explain starting procedure of Emergency generator.
18. a) Explain classification of ship as per propulsion plant.
b) Explain parallel running of generator.
19. Describe a F.W.G utilizing J.C.W system.
20. List and explain functions of boiler mountings.
21. Describe a basic vapour compression refrigeration cycle.
22. Sketch and describe working of centrifugal pump.