

Indian Maritime University
(A Central University, Govt of India)
End Semester Examinations – December 2023
Programme Name: B Tech (ME)
Semester: VII
Subject Code: UG11T3705
Subject Name: ENGINE ROOM MANAGEMENT

Date: 13.12.2023

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

Ten MCQs/Fill in the Blanks of 01 Mark each – Choose the correct answer as applicable.

1. What is the purpose of testing communications between the bridge and steering gear compartment?

- A) To confirm the emergency power supply.
- B) To check the availability of generator power.
- C) To test the steering gear's movement.
- D) To ensure clear communication during maneuvers.

2. How often is a Special Survey dry docking typically carried out?

- A) Every 3 years
- B) Every 2 years
- C) Every 5 years
- D) Every year

3. What is the purpose of a roller fairlead on a ship?

- A) To measure depth
- B) To guide ropes and wires
- C) To load cargo

D) To secure the anchor

4. During your engine room watch, you notice a sudden increase in the temperature of a machinery component. What should be your immediate action as a watchkeeper?

A) Report the observation to the on duty engineer or second engineer and chief engineer

B) Wait for the next watchkeeper to take over and inform them about the observation

C) Ignore it as it might be a temporary fluctuation

D) Attempt to fix the issue yourself if you are familiar with the equipment

5. When conducting functional tests on communication equipment, what is the primary concern?

A) Confirming the availability of various communication channels.

B) Ensuring the crew can stream online content seamlessly.

C) Evaluating the quality and reliability of communication links during emergencies.

D) Signal interference from nearby vessels

6. During routine ballast water pumping operations, the watchkeeping officer notices a sudden increase in the bilge alarm frequency. What should the officer do first?

A) Reduce the ballast pumping rate slightly and monitor the bilge alarms.

B) Continue with the ballast pumping operation as scheduled.

C) Ignore the bilge alarms as they might be malfunctioning.

D) Stop the ballast pumping operation immediately

7. A ship shall be required to preserve the official logbook for a period of _____.

A) 3 years after the first entry was made

B) 3 years after the last entry was made

C) 5 years after the first entry was made

D) 5 years after the last entry was made

8. IMO 2020 MARPOL Annex VI impose global Sulphur cap % age in fuel oil to be used outside ECA?

A) 1.20%

B) 1%

C) 0.10%

D) 0.50%

9. Slow and clockwise rotation of synchro scope indicates

A) Incoming DG is slightly at lower RPM

B) Running and incoming DGs are at equal RPM

C) Incoming DG is slightly at higher RPM

D) Running DG is slightly at higher RPM

10. What does the "101% Principle" refer to in the context of leadership?

A) Giving 101% effort in all tasks

B) Trying to achieve a 101% success rate

C) Focusing on the 1% to affirm and giving it 100% attention

D) Finding the 1% to criticize in team members

Section B

Five Questions of 02 Marks each

11. State 3 precautions taken in bad weather while sailing at sea

12. List down the various types of sealants and packing used on board.

13. Define the following terms:

1. Risk
2. Risk Ranking
3. ALARP

14. In the Engine Room Log Book, what are the main parameters recorded every watch?

15. Name all 6 Annexes of MARPOL 73/78.

Section C

Seven Questions of 10 Marks each of which any 05 questions to be answered.

16. (a) Explain Risk Assessment format for Main Engine unit Overhaul during a breakdown on a foreign going vessel. (5 Marks).

(b) State the criteria to pump out Engine Room Bilges. (5 Marks)

17.(a) State the preparations of Engine Room for UNSHELTERED Anchorage.

(5 Marks)

(b) State the planning and preparation by Ship-Staff prior to Dry-Docking of a vessel. (5 Marks)

18. a) Explain the conditions under which Oily Mixtures may be discharged into the sea from an Engine Room Bilge, as per MARPOL Annex I. (5 Marks)

b) Define 'Sewage' as per Annex-4 and give its discharge criteria? (5 Marks)

19. a) Describe in details; how spare parts are ordered and received on board ship. (5 Marks)

b) You have joined a ship as Junior Engineer; What basic safety & Security related familiarization you are expected to undergo ? (5 Marks)

20. (a) What precautions are to be taken before entry to the Enclosed Space on board Ship? (5 Marks)

(b) What precautions to be taken to prevent pollution during Bunkering on board ship ? (5 Marks)

21. (a) What are the considerations to be taken into account while estimating the Bunker requirement for the Voyage. (5 Marks)

(b) Discuss the planned maintenance schedule for any Main air Compressor. (5 Marks).

22. a) What precautions are taken in the engine room against the bad weather. (5 Marks)

b) What is emergency steering and explain in detail the procedure for the same.
(5 Marks)

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