

EXAMINATION OF MARINE ENGINEER OFFICER

Function: Marine Engineering at Management Level

ENGINEERING MANAGEMENT

India	M.E.O. Class I (Apr 2023)	(Time allowed - 3hours) Total Marks 100
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NB: (1) Answer any SIX Questions

(2) All questions carry equal marks

(3) Neatness in handwriting and clarity in expression carries weightage

(4) Illustration of an Answer with clear sketches / diagrams carries weightage.

(5) Start answering from the backside of the front cover page

(6) Blank pages if any, to be struck off by (X) at the end of each question.

Q1. Several casualties have been reported involving ships carrying Bauxite as cargo. Discuss the causes of such casualties and the specific care and action be taken, taking into account the provisions of relevant IMO instruments, when handling and carrying bauxite in bulk.
2022/SEP 2023/APR

Q2. The HNS Convention is expected shortly to come into force. Explain the following in respect of this convention. (a) List and give examples of substances covered under this convention (b) Types of pollution and subsequent losses or damages which can com under this convention (c) Why would an oil products tanker probably require to haVE certificates under all 3 conventions i.e., CLC, Bunker and HNS.
2022/SEP 2023/APR

Q3. Explain the concepts of "Particular Average" and "General Average". What are the circumstances when a general average can be declared? Who are average adjusters and what is their role in general average loss situations? (16) 2023/APR

Q4. An Indian flag vessel collided with another vessel off the coast of India, as a result few lives were also lost and vessel damaged. In accordance with the provisions under the Merchant Shipping Act, what steps should be initiated and who should initiate such steps for the safety of the ships and the marine environment

Q5. What is Maritime Lien? How does this lien travel with property? Explain the associated terms "In Rem" and "In personam". Which convention deals with maritime lien? Give the order of settlement of various debtor's claims after legal action as per this convention. 2022/DEC/Q9 2023/APR

Q6. Recent stress on the control of emission from ships has led to the development of a series of devices aimed at the improvement of propeller propulsion effectiveness.

Discuss various such devices with special focus on the following: -

- a) Wake Equalizing Devices. (4)**
- b) Pre-swirl Devices (4)**
- c) Post-swirl Devices (4)**
- d) High-efficiency Propellers. (4)**

2023/APR

Q7. Describe the background and relevance of the International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001.

Define the following under Bunker Convention and explain how they differ from other similar Convention such as CLC'92.

- (a) Pollution damage & Exclusions. (4)**
- (b) Time limits for claims. (4)**
- (c) Liability of Ship owner & Limitations of Liability. (4)**
- (d) Compulsory Insurance & Financial Security. (4)**

2023/APR

Q8.a) Discuss the broad overview of the relevant IMO, ILO regimes relating to the Human Element in the maritime industry such as maritime labour and welfare.

B). Discuss the IMO guidance on fatigue mitigation and management on board ships

Q9. a) Discuss the role of Classification societies in structural, mechanical, and electrical rule formation and implementation during design, construction, and maintenance. Explain why compliance with the above-referred Class rules is now mentioned in SOLAS ch.II-1.

b) Explain the difference and relevance between annual and periodical surveys toward harmonized survey and certification system

2022/OCT/Q5 2023/APR