

EXAMINATION OF MARINE ENGINEER OFFICER

Function: Marine Engineering at Management Level

ENGINEERING MANAGEMENT

India	M.E.O. Class I (January 2024)	(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. Explain the principle of "Uberrimae Fidei" in Marine Insurance. What are the different disclosures which must be made by the insured to the insurer in Marine Insurance? List the circumstances which need not be disclosed to the insurer. What happens to the Marine Insurance contract if the disclosures are not made to the insurer at the time of the conclusion of the contract? (16)

Q2. a) Discuss the key provisions and objectives of the Convention on Facilitation of International Maritime Traffic (FAL Convention). (6)
 b) Briefly discuss the impact of the FAL Convention on enhancing efficiency and Security in international maritime traffic. (4)
 c) Discuss the significance of the FAL Convention in promoting global cooperation and standardization in maritime trade. (6)

Q3. Explain the concept of CII rating and critically discuss the role of measuring metrics of AER and EEOI. What are the measures required to be taken by the vessel to improve its CII ratings. (16)

Q4. a) What are the essential elements of preventive maintenance on-board ships. (6)
 b) Analyse the link between statutory and classification survey of ship machinery and equipment with respect to routine maintenance and how it is effectively merged in ship's safety management system under the ISM code. (10)

Q5. a) Enumerate the structure of IACS and explain difference between UI, UR, PR from IACS. Does it have any significance to ship owners/operators? (8)
 b) What is a Recognized organization? What are the salient features of the R.O. Code? How do Administrations monitor R.O.s? (8)

Q6. Explain the latest developments in Marine “Tribology”. Discuss the inferences you may draw from a main engine lub oil analysis report with the proposed corrective action in each case. (16)

Q7. (a) Briefly discuss the concept of vetting inspections and their significance in maritime oil trade. How does vetting inspections contribute to continuous improvement and safety culture within the oil tanker sector? (8)

(b) Discuss emerging trends or advancements in vetting procedures, including the integration of technology and data analytics. (8)

Q8. a). Explain Fault Tree Analysis (FTA) with relevant examples. (8)

b). Construct the Fault tree for “Engine Starting Failure” i.e., the engine speed goes down and finally stops. (8)

Q9. Referring to the IMO Instruments Implementation Code.

a) Briefly Discuss the objectives of the code and strategy recommended to flag state to achieve the objective. Which all IMO instruments covered in the code. (6)

b) What are the key performance indicators for evaluation of Flag state performance as per the code.(4)

c) Briefly discuss the Flag state, coastal state, and Port state responsibilities. (6)