

Q1 (20 marks)

MARPOL is considered as one of the most flexible and efficient international environmental treaties currently in force. The adoption of a new amendment is enumerated in Article 16 of the MARPOL. This article establishes multiple ways for amending the convention, depending on what part of MARPOL is being amended. Kindly discuss the various ways in which the MARPOL convention may be amended.

Q2 (16 marks)

(a) Discuss the application of formal safety assessment in carriage of lithium battery in vehicles, containers and RO-RO ships. (10)

(b) State various measures that are required to be taken by stakeholders to address the safety challenges in the carriage of such cargoes onboard ships. (6)

Batteries & E'mcy power supplies

Q3 (16 marks)

(a) What are the principles of modern salvage law? (5)

(b) What is general average? (3)

Explain the following in reference to the general average:

(i) Entitlement (2)

(ii) Artificial (2)

(iii) Adjustment (2)

(iv) Contestation. (2)

Q4 (16 marks)

A VLCC suffered hull damage following a tank explosion and sank after a few days while undergoing salvage operations in the territorial sea of a coastal state.

Discuss ship-owner's protections with reference to: (16)

(a) marine insurance

(b) liabilities under international conventions

Q5 (16 marks)

With reference to biofouling of ships hull:

(a) Discuss consequences of biofouling on the ship performance and the environment. (4)

(b) What are the new approaches to reduce biofouling. (4)

(c) How ship specific Bio Fouling Management Plan can minimize biofouling. (4)

(d) State the entries in Bio Fouling Record Book. (4)

Q6 (16 marks)

- (a) Control of disease vectors is necessary for maintenance of health on board ships. Elucidate the role of the World Health Organisation to ensure health safety at sea. (5)
- (b) Which are the national agencies tasked with the enforcement of the health protocols and regulations, ensuring the safety of seafarers and compliance of the ship with international safety standards? Briefly explain the procedure followed in India. (5)
- (c) What are the different certificates issued to a vessel for maintenance of the ship in good health? (2)
- (d) Name the competent authority in India for inspection and issuance of certificates to a ship. What is the validity of these certificates? Are there provisions for extension of such certificates beyond the date of expiry? (4)

Q7 (16 marks)

Explain the provisions under United Nations Convention on the Law of the Sea (UNCLOS) that mandates the following from each member States:

- (a) States must "maintain a register of ships" flying their flag (5)
- (b) Control safety, pollution and social aspects of ships (5)
- (c) Analyze the legislative and constitutional mechanisms adopted by India to implement the provisions of the UNCLOS in respect to the obligations referred in (a) and (b) above, since its ratification. (6)

Q8 (16 marks)

- (a) State the applicable regulation of SOLAS and MARPOL under which it is mandatory for a flag state to conduct an investigation into any incidence of maritime casualty. (5)
- (b) Illustrate the salient points of casualty investigation code and the recommended practices for a safety investigation into a marine casualty or marine incident. (7)
- (c) What do you understand by the term 'very serious marine casualty'? (4)

Q9 (16 marks)

- (a) How is Human Element issue addressed in STCW Code? (6)
- (b) Critically examine the impact of fatigue on seafarer performance. Identify the measures adopted by the IMO in this regard. What measures can a shipping company implement to mitigate these risks in compliance with international regulations? (10)