

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

**March/April 2024 - Supplementary Examinations**

**Programme Name: B Tech (ME)**

**Semester: IV**

**Subject Code: UG11T4404**

**Subject Name: Marine Pollution Prevention and Safety**

Date: 19.03.2024

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 sections.
- (iii) Clarity of thoughts and neatness in expression can fetch full marks

**Section A**

01 Mark each

1. Ballast water treatment system needs to be fitted on board to maintain compliance with one of the following

A. MARPOL ANNEX I	B. MARPOL ANNEX VI
C. MARPOL ANNEX VII	D. NONE OF THE ABOVE

2. OPA 90 is best described by one of the following

A. Act of USA To establish limitations on liability for damages from oil pollution,	B. IMO Convention for Pollution prevention from Ships
C. IMO Convention for Liability for Damages and compensation	D. Convention by USA to control Invasive species

3. A Particularly Sensitive area (PSSA) is the area,

A. that needs special protection through action by IMO	B. that needs special protection through action by OCIMF
C. that needs special protection through action by Australia	D. that needs special protection through action by P&I club

4. Administration surveyors when checking their own registered ships for compliance of international regulations such as MARPOL / SOLAS it is called

A. FSI (Flag State Inspection)	B. PSI (Port State Inspection)
C. Annual Survey	D. Intermediate Survey

5. With regard to Annex II, the special areas include following

A. Wider Caribbean sea	B. Antarctic Area
C. Area up to 200 NM from Baseline at coast of USA	D. None of the above

6. MARPOL Annex V and Annex VI are pertaining to disposal of

A. Plastics and Particulate matter	B. Food waste and oil
C. Metallic waste and Sewage	D. Hold Wash water and Ballast

7. ISM code in part of following

A. Chapter IX of SOLAS 1974	B. Chapter XII of SOLAS 1974
C. Chapter XI-1 of SOLAS 1974	D. Chapter XI-2 of SOLAS 1974

8. Recording of Loading / discharging of Chemicals and hazardous cargoes

A. To be done in Oil record book	B. To be done in Engine room log book
C. To be done in Cargo Record Book	D. do not need recording on board.

9. IOPP certificate is abbreviation (short name) of following

A. Intercostal Oil Pollution Prevention Certificate	B. IMO Oil Pollution Prevention Convention certificate
C. International Oil Pollution Prevention Certificate	D. International Ore Pollution Prevention and carriage code

10. MARPOL 73/78 is the convention which covers Prevention of pollution

A. from Ships	B. from Chemical factories at shore
C. By Ships and aircrafts while at sea	D. All of the Above

## Section B

02 Marks each

11. Enlist at least 4 conditions which has to be complied with for using OWS outside Special areas as per Annex I of MARPOL 73/78

12. Match the following

A. ORB part II	1. Bulk carrier
B. GRB part II	2. All ships with GRT more than 400
C. Cargo Record Book	3. Crude oil carrier
D. SOPEP	4. Tanker Vessel certificated to carry Annex II cargo

13. What is the Purpose of International Convention on the Control of Harmful Anti-Fouling Systems on Ships.

14. Explain the discharge Criteria for following

1. Raw Sewage
2. Used Batteries removed from Flash lights

15. Define special Area and list the special areas as per Annex I of MARPOL 73/78

## Section C

Any 05 questions to be answered

16. Sketch and describe working of 15 ppm Oily Water Separator (OWS)  
(10 Marks)

17. Explain the importance and salient features of following on-board drills:

- A. Fire drills (5 Marks)
- B. Enclosed space entry and rescue drills (5 Marks)

18. A. Enlist all the Annexes of MARPOL 73/78 and explain each one briefly (7 Marks)  
B. Enlist at least THREE Pollutants mentioned in MARPOL ANNEX VI (3 Marks)

19. State and explain purpose of ISM code including the purpose of SMS and also explain the procedures to be followed during Repair and Maintenance of Machinery (10 Marks)

20. A. Sketch and describe working of a biological Sewage Treatment Plant used on-board. (7 Marks)  
B. State the purpose of Sewage Retention System (Holding Tank) and how sewage from Sewage Holding Tank to be discharged at sea. (3 Marks)

21. Sketch and describe a typical ship board Incinerator for the purpose of burning sludge and solid waste as per Annex 1 and Annex 5 of MARPOL

(10 Marks)

22. Explain following, including the aim, purpose, area of scope

1. LDC

(2 Marks)

2. OPRCHNS

(2 Marks)

3. BWM –Convention

(6 Marks)

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