

(Paper Format)

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I)
FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Questions based on:

Competency No.17: Maintain safety and security of the ship's crew and passengers and the operational condition of life-saving, fire-fighting and other safety systems

17.1 A thorough knowledge of life-saving appliance regulations (International Convention for the Safety of Life at Sea) - LSA Code

17.2 Organisation of fire and abandon ship drills

17.3 Maintenance of operational condition of life-saving, fire-fighting and other safety systems

17.4 Actions to be taken to protect and safeguard all persons on board in emergencies

17.5 Actions to limit damage and save the ship following a fire, explosion, collision or grounding

17.6 Safety and Security of the ship's crew and passengers: Safety committee, maintenance of safety equipment, care and maintenance of rope wires, code of safe working practices, dock safety regulation. Reporting of accidents.

17.7 Ship maintenance and repairs: Corrosion prevention, structure of paints and painting areas, Planned maintenance, maintenance of cargo handling equipment

Competency No.18: Develop emergency and damage control plans and handle emergency situations

18.1 Emergency situations

18.1.1 Demonstrates the knowledge of preparation of contingency plans for response to emergencies: Drawing plans to deal with emergencies, legal aspects and seamanship practices.

18.1.2 Understands ship construction with regards to damage control

18.1.3 Explains methods and aids for fire prevention, detection and extinction: Fire prevention procedures, different types of fires and firefighting equipment to be used, fighting fire on different types of ship.

18.1.4 Understands functions and use of life saving appliances: Different types of emergencies, actions taken, life saving appliances and instructions to use it.

Competence No. 19: Use of leadership and managerial skills

19.1 Knowledge of shipboard personnel management and training

19.2 A knowledge of related international maritime conventions and recommendations, and national legislation

19.3 Ability to apply task and workload management, including

19.3.1 planning and co-ordination

19.3.2 personnel assignment

19.3.4 time and resource constraints

19.3.5 prioritization

19.4 Knowledge and ability to apply effective resource management
19.4.1 allocation, assignment, and prioritization of resources,
19.4.2 effective communication on board and ashore,
19.4.3 decisions reflect consideration of team experiences,
19.4.4 assertiveness and leadership, including motivation,
19.4.5 obtaining and maintaining situation awareness
19.5 Knowledge and ability to apply decision-making techniques
19.5.1 situation and risk assessment,
19.5.2 identify and generate options,
19.5.3 selecting course of action,
19.5.4 evaluation of outcome effectiveness
19.6 Development, implementation, and oversight of standard operating procedures

- Q. 1. Competence no. 17.1- 17.5 (*SOLAS- LSA*)
- Q. 2. Competence no. 17.6 (*SHIP SAFETY AND SECURITY*)
- Q. 3 Competence no. 17.7 (*SHIP MAINTENANCE AND REPAIRS*)
- Q. 4 Competence no. 18 (*EMERGENCIES*)
- Q. 5 Competence no. 18 (*SOLAS- FFA*)
- Q. 6 Competence no. 19 (*LEADERSHIP AND MANAGERIAL SKILLS- Motivation, Team working skills, Resource management, Effective Communication*)
- Q. 7 Competence no. 19 (*LEADERSHIP AND MANAGERIAL SKILLS- Risk Assessment, Training of personnel, Standard Operating Procedures*)

GOVERNMENT OF INDIA

PM PAPER

Date: - 10th Jan-2025

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3. Where applicable sketches should be drawn to support the answer.

Q.1) What are the salient features of the ISPS Code to ensure the security of the ship's crew and passengers?

Q.2) (a) List out the maintenance requirements for lifting appliances over a period of 5 years.

(b) Prepare a maintenance schedule of hydraulic hatch covers.

Q.3) (a) How corrosion prevention is important to ensure safety of life and marine environment?

(b) How planned maintenance system helps in achieving the safety of the crew onboard the ship?

Q.4) Who is a Port State Control Officer (PSCO)? How are ships selected for inspection by PSC? What are clear grounds for detailed inspection during PSC inspection?

Q.5) (a) Explain Maslow's theory of hierarchy and how you can use it to motivate your crew whose sign off has been delayed due to COVID-19 pandemic.

(b) Describe what are the causes, effects and prevention of fatigue on board ships.

Q.6) (a) What are the essential elements of a risk assessment and the relevance of every element?

(b) Prepare a risk assessment, as a chief officer, you will make to carry out a hot work inside the cargo tank of an oil tanker.

Q.7 Explain the working CO₂ systems onboard a ship.

GOVERNMENT OF INDIA

AM PAPER

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Q.1) (a) Briefly describe the LSA Code requirements relating to personnel lifesaving appliances such as life jackets, lifebuoys, immersion suits and anti-exposure suits.

(b) Prepare an emergency muster list for a ship which has a total complement of 20 persons taking into account all the requirements of muster list and emergency instructions specified in Chapter III of SOLAS.

Q.2) (a) Describe the functional requirements of ISM code.

(b) As per the ISPS Code, what are the contents of the Ship Security Plan?

Q.3) (a) Prepare a painting scheme for cargo and other pipelines on main deck.

(b) Describe the maintenance work to be carried out in a dry dock for anchor and cables, sea chests, storm valves and under water portion of the ship's hull.

Q.4) What are the contingency plans in respect to:

- (a) Grounding of a passenger ship on reef, and
- (b) Ice Navigation off Grand Banks of Newfoundland.

Q.5) (a) What is a Standard Fire Test? Describe the Class Divisions for Structural Fire Protection on ships.

(b) With the help of a diagram, briefly explain the working principle, maintenance requirements, and operating procedures of sprinkler and water spraying systems on board passenger ships.

Q.6) (a) With a relevant motivational theory, justify "Motivation comes from within a person or is it a result of situation." Give appropriate shipboard example.

(b) List out some of the areas you, as a chief officer, will focus on to be an effective leader. Explain with the help of onboard situation.

Q.7) (a) State the purpose of a Port State Control Inspection?

(b) How does PSC MOU select ships for inspection?

GOVERNMENT OF INDIA

PM PAPER

Date: - 3rd OCT-2024

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Q.1) What are the LSA code requirements with regards to Life rafts?

**Q.2) a) As per dock worker regulations. What are powers of dock inspector?
b) During cargo operations, one of the stevedore's men gets injured while working on board, how will you deal with this situation?**

**Q.3) a) How as a Chief officer on a Chemical tanker with hectic work schedule, will you prevent fatigue to the crew members?
b) What are the various signs will you notice as a sign of fatigue?**

Q.4) With respect to ISPS Code, describe:

- a) Ship Security Assessment
- b) Ship Security Plan
- c) Procedure for amendment of Ship Security Plan

**Q.5) a) Draw a sketch to show working of CO₂ system in use on ships.
b) Explain why CO₂ is used for fire extinguishing.**

Q.6) "Emergency preparedness" is required as per ISM code. How will this will be achieved onboard?

**Q.7 a) What precautions would you take before and while painting steel deck plates?
b) For peak water ballast tank is showing signs of corosions. How would you treat it?**

GOVERNMENT OF INDIA

AM PAPER

Date: - 3rd Oct-2024

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I)
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Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q.1) a) How will you organize and conduct the fire drill and abandon ship drill as per SOLAS.
b) Why do you train personnel on board? Explain the process you would follow to initiate the training of a new deck officer joining an oil tanker in port before taking over his duties and why is it important to follow this process.

Q.2) What are the salient features of the ISPS code to ensure the security of the ship's crew and passengers?

Q.3) a) How corrosion prevention is important to ensure safety of life and marine environment?
b) How planned maintenance system helps in achieving the safety of the crew on board the ship?

Q.4) a) What is Risk Assessment?
b) Explain Risk Assessment for entry into Double Bottom Ballast Tanks for purpose of inspection.

Q.5) Who is a Port State Control Officer (PSCO)? How are ships selected for inspection by PSC? What are clear grounds for detailed inspection during PSC inspection?

Q.6) “Personal Power & Situational Awareness helps in maintaining cordial environment on board for routine jobs”. Justify the statement with onboard situation.

Q.7) a) What are the essential elements of a risk assessment and the relevance of every element?
b) Prepare a risk assessment, as a chief officer, to carry out a hot work inside the cargo tank of a chemical tanker.

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3. Where applicable sketches should be drawn to support the answer.

Q.1) a) How as a Chief Officer on a Chemical tanker with hectic work schedule, will you prevent fatigue to the crew members?
b) What are the various signs will you as a sign of fatigue?

Q.2) Explain with reference to Master's hierarchy theory, how you will motivate your subordinates to give maximum productivity in their daily during their full tenure?

Q.3) a) What are the essential elements you will allocate while setting the priorities?
b) What are the factors will you, as a chief officer, consider while delegating various tasks to your subordinates?

Q.4) With respect to ISPS Code:

a) What are the obligations of the ships, terminals and the shipping companies?
b) What are the different security levels and duties and responsibilities of the ship's crew during each of these levels?

Q.5) Describe the objectives of ISM Code:

a) Describe the role of DPA as per ISM code within your organization. Describe the responsibility of company to provide necessary resources and support to DPA and Master for effective implementation off safety management system as per ISM code.
b) Explain the basic principles of effective resource management.

Q.6) a) How the ISM code addresses the prevention of breakdown, reduction in performance and safety of various equipment on board ship?
b) Describe the maintenance work to be carried out in a dry dock for anchor and cables, sea chests, storm valves and under water portion of ship's hull?

Q.7) a) List out the additional firefighting equipments required for carriage of dangerous cargoes.
b) Explain the functioning and purpose of CO2 fixed firefighting system found onboard tanker ships.

GOVERNMENT OF INDIA

Date: - 3rd April-2024

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Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q.1) a) What are the LSA code requirements regarding marking of Lifeboat and inflatable Life Rafts?
b) Briefly write about the weekly and monthly inspection routine for above?

Q.2) a) What is Risk Assessment?
b) Explain Risk Assessment for entry into Double bottom Ballast tanks for purpose of inspection.

Q.3) a) What are the essential elements you will allocate while setting the priorities?
b) What are the factors will you, as a chief officer, consider while delegating various tasks to your subordinates?

Q.4) Explain with reference to Maslow's hierarchy theory, how you will motivate your subordinates to give maximum productivity in their daily during their full tenure.

Q.5) a) A coaster has collided with you anchored ship, a loaded crude oil tanker, on which you serving as Chief Officer. Cargo is escaping from above the waterline. List the initial and subsequent actions that you will take.
b) Describe the requirements of SOLAS Chapter II-I relating to protective coating of dedicated sea water ballast tanks and double side skin space?

Q.6) Describe the objectives of ISM Code:
a) Describe the role of DPA as per ISM code within your organization. Describe the responsibility of company to provide necessary resources and support to DPA and Master for effective implementation off safety management system as per ISM code.
b) Explain the basic principles of effective resource management.

Q.7) a) How as a Chief officer on a Chemical tanker with hectic work schedule, will you prevent fatigue to the crew members?
b) What are the various signs will you notice as a sign of fatigue?

GOVERNMENT OF INDIA

Date: - 11th Jan-2024

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I)

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PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

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Notes:

1. Attempt any 6 questions out of 7.
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Q.1) a) Describe maintenance & inspection requirements of Life Saving Equipments as per SOLAS Chapter III.
b) Prepare a list of Life Saving Appliances required as per SOLAS Chapter III for a chemical tanker built 2010 engaged in International Voyages.

Q.2) a) How is a ship security plan made and what are its contents and draw procedure for its revision.
b) List the items covered during the Chief Officer's weekly safety inspection of ship as prescribed in code of Safe Working Practices.

Q.3) a) What are the parts of ship's hull most liable for corrosion and how you counteract this from getting corroded.
b) Enumerate the inspection schedule for cargo handling crane.

Q.4) a) Draw a contingency plan and procedure for a ship having blackout condition. Restoration of power is to be done.
b) What you understand by Emergency preparedness as per ISM code.

Q.5) a) What is the purpose of a work permit? Using a shipboard example explain the importance of a Hot Work Permit.
b) Describe the precautions to be taken before switching on the welding machine?

Q.6) a) Describe the objectives of ISM code and explain how your company safety management system attaining the ISM objectives.
b) As Chief Officer how you motivate a newly promoted third officer with respect to put his abilities in learning and giving effective work output.

Q.7) a) As a Chief Officer of an oil tanker how would you train your crew towards safe working on deck (considering fatigue condition)?
b) Explain elements of STCW 2010 and discuss the new amendments & its effect.

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Q.1) a) Briefly describe the LSA code requirements related to on-load release & retrieval system (OLRRS) of lifeboats.

b) Prepare an Annual Drill Planner for conducting all the drills as per SOLAS, MARPOL and ISPS codes.

Q.2) a) As a safety officer, list the various responsibilities and duties you are required to fulfill. Enumerate some proactive measures you will take to enhance safety awareness and compliant onboard.

b) As a ship security officer, how will you ensure the security of the vessel?

Q.3) What is a planned maintenance system (PMS) and what are its advantages? Is it mandatory to have PMS and under which regulation / convention? Can your ship be detained by a PSC inspection in absence of a PMS onboard?

Q.4) a) Prepare a contingency plan to deal with leakages and spills of dangerous cargoes inside a cargo hold.

b) Enumerate the method to carry out situation and risk assessment? Carry out a risk assessment in a proper format for lowering of lifeboats up to embarkation decks at sea as part of the routine SOLAS requirements.

Q.5) a) With the help of a suitable sketch enumerate the operating principle and maintenance requirements of smoke detection system fitted for cargo holds.

b) Describe the onboard test procedure and interval for automatic sprinkler system and hyper mist water spray system.

Q.6) a) List out some barriers to effective communication on board. Explain with onboard situation.

b) What is personal power and positional power? Explain how will you as a chief officer, motivate your crew keeping a balance between the two?

Q.7) a) What are the guidelines given in the STCW code regarding on board training for cadets?

b) How will you ensure the rest hour requirements for watch keepers and other crew members being compiled with as per STCW 2010 and MLC 2006?

GOVERNMENT OF INDIA

Date: - 12th July-2023

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3. Where applicable sketches should be drawn to support the answer.

Q.1) a) What are the LSA code requirements regarding marking of inflatable lifeboat and life rafts?
b) Briefly write about the weekly and monthly inspection routine for above?

Q.2) a) What is the purpose of the “work permit”? What are the contents of work permit?
b) Prepare a check list for enclosed space entry and explain importance of same?

Q.3) a) List out the maintenance requirements for lifting appliances over a period of 5 years.
b) Prepare a maintenance schedule of hydraulic hatch covers.

Q.4) “Emergency preparedness” is required as per ISM. How will this will be achieved on board?

Q.5) Explain the working of CO₂ systems on board a ship?

Q.6) Prepare an emergency muster list for a ship complement of 21 (4 deck officers including Master, 1 Electrician, 5 deck ratings, 3 engine ratings, 2 catering ratings, 1 deck and 1 engine cadet). Ensure all the information as shown in SOLAS is shown.

Q.7) a) As a chief officer of a container ship how will you prepare a training schedule for a new junior deck officer?
b) How will you motivate your crew in order to extract the maximum output from them?

GOVERNMENT OF INDIA

Date: - 10th April-2023

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Q.1) a) With reference to LSA code, enumerate the requirements for construction, stability and markings of inflatable life-rafts?

b) For a bulk carrier built in 2012 and engaged on international voyages, prepare a list of LSA as per SOLAS Chapter III.

Q.2) With reference to “ISPS Code”, describe

a) Ship Security Assessment
b) Ship Security Plan
c) Procedure for amendment of
Ship Security Plan.

Q.3) a) As a chief officer, prepare a plan to implement PMS on board a newly built yard delivery vessel.

b) Write short notes on: i) Preventive Maintenance

1. **What is the primary purpose of the study?** (e.g., to evaluate the effectiveness of a new treatment, to explore the relationship between two variables, to describe a population, etc.)

Q.4) As a chief officer, prepare a contingency plan.

- a) Rescue of survivors from another ship
- b) Rescuing an unconscious person from pump room bottom platform.

Q.5) a) Draw a sketch to show working of CO₂ system in use on ships.

b) Explain why CO_2 is used for fire extinguishing.

Q.6) a) Motivation is key factor for performance enhancement. As a Mate, how will you motivate your subordinates in order to achieve optimum performance level?

b) What are the most important values one must demonstrate as a Leader? How can a leader fail? Give an example of a situation when you failed as a Leader.

Q.7) a) Develop a Training plan for all ship staff upon takeover of a new ship at the yard, and to be implemented before the vessel sails for her first voyage.

b) What are SOP's (Standard Operation Procedures) and why are they needed? Prepare a SOP for "Refilling of SCBA bottles using a shipboard SCBA compressor".

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Q.1) a) How will you organic and conduct the fire drill and abandon ship drill as per SOLAS.
b) Why do you train personnel on board? Explain the process you would follow to initiate the training of a new deck officer joining an oil tanker in port before taking over his duties and why is it important to follow this process.

Q.2) a) State the criteria for appointing a safety officer and explain in detail his responsibilities in ensuring safety on board.
b) Draw up a checklist for conducting routine safety inspection on board by safety officer.

Q.3) a) What precautions would you take before and while painting steel deck plates?
b) For peak water ballast tank is showing signs of corrosions. How would you treat it?

Q.4) a) A coaster has collided with you anchored ship, a loaded crude oil tanker, on which you serving as Chief Officer. Cargo is escaping from above the waterline. List the initial and subsequent actions that you will take.
b) Describe the requirements of Chapter II-I of SOLAS relating to protective coating of dedicated sea water ballast tanks and double-side skin space?

Q.5) With respect to an oil tanker how each of the following are achieved:
a) Prevention of Fire & Explosion in cargo tanks.
b) Prevention of Fire & Explosion in Accommodation and Machinery spaces.
c) Prevention of Fire & Explosion in the cargo pump room.

Q.6) a) Does motivation come from within a person or is it a result of situation? Explain with the help of relevant theory and shipboard examples?
b) Briefly explain the salient features of the ISM Code.

Q.7) a) What are the essential elements of a risk assessment and the relevance of every element?
b) Prepare a risk assessment as a chief officer, you will make to carry out a hot work inside the cargo tank of a chemical tanker.

GOVERNMENT OF INDIA

Date: - 3rd Nov-2022

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Q.1) How the operational readiness of the LSA equipment is ensured on board ships?

Q.2) What are the salient features of the ISPS code to ensure the security of the ship's crew and passengers?

Q.3) a) How corrosion prevention is important to ensure safety of life and marine environment?
b) How planned maintenance system helps in achieving the safety of the crew on board the ship.

Q.4) a) What is Risk Assessment?

b) Explain Risk assessment for entry into Double Bottom Ballast Tanks for purpose of inspection.

Q.5) Who is a Port State Control Officer (PSCO)? How are ships selected for inspection by PSC? What are clear grounds for detailed inspection during PSC inspection?

Q.6) "Personal Power & Situational Awareness helps in maintaining cordial environment of board for routine jobs". Justify the statement with on board situations.

Q.7) a) What are the essential elements of a risk assessment and the relevance of every element?
b) Prepare a risk assessment as a chief officer, to carry out a hot work inside the cargo tank of a chemical tanker.

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Q.1) a) How abandon ship drill organized in a ship where free fall lifeboat in the provisions?
b) Give a detailed debriefing of the drill conducted with suggestions if any for improvement?

Q.2) a) Draw up a checklist for conducting routine safety inspection onboard an oil tanker by safety officer?
b) Describe the Deck labour regulation operation, inspection & testing of lifting appliances onboard a ship?

Q.3) a) What is the planned maintenance system? What are the advantages and disadvantages of computer based PMS?
b) Prepare PMS scheduled for mooring winches on your ship?

Q.4) a) Describe the procedure for rigging and effective use to tackle refloat a grounded vessel.
b) Explain the procedure to try out all fire alarms as per routine checks.

Q.5) a) Describe the fixed fire fighting system protecting engine room of your ships.
b) Explain annual inspection carried out on the fixed fire fighting system.

Q.6) a) What you understand by Motivation and discuss regarding sources of motivation.
b) Explain Team work, Team building and interpersonal relationship with suitable examples in achieving its goals.

Q.7) What is Risk assessment, why Risk assessment is important and how do you do the Risk assessment, enumerate with an example.

GOVERNMENT OF INDIA

Date: - 5th Aug-2022

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Notes:

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3. Where applicable sketches should be drawn to support the answer.

Q.1) a) With reference to SOLAS, list the on-board training and instruction you should give to each crew member with model training schedule.

b) Prepare an Emergency Muster List for a ship with a total complement of 21 (4 Deck Officers, (including Master), 4 Engineer Officers, Electrician, 5 Deck ratings, 3 Engine Ratings, 2 Catering Ratings, 1 Deck and a Engine cadet). Ensure all the information as required by SOLAS is shown.

Q.2) What are the salient features of the ISPS code to ensure the security of the ship's crew and passengers?

Q.3) a) How corrosion prevention is important to ensure safety of life and marine environment?

b) How planned maintenance system helps in achieving the safety of the crew on board the ship?

Q.4) Prepare the list of immediate action plant in the event of:

- a) Fire in the engine room
- b) Cargo oil spillage

Q.5) a) As a chief officer, how will you improve safety awareness of crew and officers on board? What various methods will you use?

b) Describe structured shipboard training program as per STCW.

Q.6) "Using different Situational Leadership Styles contributes to effective bridge team work". Justify this statement with on board situations.

Q.7) a) What is Risk Assessment?

b) Prepare a risk assessment sheet for entering in a double bottom space of a ballast tank.

GOVERNMENT OF INDIA

Date: - 13th July-2022

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I) **FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND** **CARE FOR PERSONS ON BOARD (Management Level)**

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q.1) a) Briefly describe the LSA Code requirements relating to life saving appliances, namely, marine evacuation systems, Line Throwing Apparatus, Embarkation Ladders and Buoyant Smoke Signals.
b) Prepare an Emergency Muster List for ship with a total complement of 25 persons.

Q.2) a) Describe the functional requirements of ISM code.
b) As per the ISPS Code, what are the contents of the Ship Security Plan?

Q.3) a) Prepare a painting scheme for cargo and other pipelines on main deck.
b) Describe the maintenance work to be carried out in a dry dock for anchor and cables, sea chests, storm valves and under water portion of ship's hull.

Q.4) What are the contingency plans in respect to?
a) Grounding of a passenger ship on reef, and
b) Ice Navigation off Grand Banks of New found land.

Q.5) a) What is a Standard Fire Test? Describe the Class Divisions for Structural Fire Protection on ships.
b) With the help of a diagram, briefly explain the working principle, maintenance requirements and operating procedures of sprinkler and water spraying systems on board passenger ships.

Q.6) a) With a relevant motivational theory, justify "Motivation comes from within a person or is it a result of situation". Give appropriate ship board example.
b) List out some of the areas you, as a chief officer, will focus on to be an effective leader. Explain with the help of onboard situation.

Q.7) a) State the purpose of a Port State Control Inspection?
b) How does PSC MOU select ships for inspection?

GOVERNMENT OF INDIA

Date: - 3rd June-2022

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I) **FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND** **CARE FOR PERSONS ON BOARD (Management Level)**

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q.1) Describe the operational readiness, maintenance & inspection requirement of L.S.A. as per SOLAS Chapter III?

Q.2) a) As a safety officer on board. List out the various responsibilities & duties you are required to fulfill.
b) List the various elements of the ISM Code.

Q.3) a) What are the advantages of computerized PMS over conventional maintenance Scheme?
b) Prepare a Planned maintenance schedule for cargo handling crane.

Q.4) a) When designing a ship, what are the basic principles to be followed to control the Damage caused by fire?
b) Prepare an emergency checklist to deal with fire in accommodation area.

Q.5) Carry out a risk assessment for carrying out inspection of a cargo tank in an Oil Tanker.

Q.6) a) Define: i) Authority ii) Assertiveness iii) Delegation
b) “Team work helps in better productivity”, as a chief mate discuss this statement in context of operations onboard your ship.

Q.7) a) Explain how to develop & methods to implement the standard operating procedure (SOP).
b) Explain the basic principles of effective resource management.

GOVERNMENT OF INDIA

Date: - 6th May-2022

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I) **FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND** **CARE FOR PERSONS ON BOARD (Management Level)**

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q.1) a) Define following:-

- (i) Anti-exposure suit
- (ii) Float free launching
- (iii) Marine Evacuation system

b) Describe how Abandon Ship drill is to be conducted on board as per SOLAS?

Q.2) a) What are the essential elements of a safety culture on board ship?

b) How each of these elements can be achieved on board the ship?

Q.3) a) Enumerate the benefits of a planned maintenance System (PMS). List out the documents and data you will use in preparing PMS of a ship.

b) As a Chief Officer prepare a check list for:

- i) Maintenance of Hatch Covers
- ii) Maintenance of Mooring Equipments
- iii) Maintenance of Accommodation Ladder

Q.4) a) Prepare a contingency plan to deal with leakages and spills of dangerous cargoes inside a cargo hold.

b) You are at sea on your voyage & observe from Bridge that a seaman who was painting combination ladder has fallen overboard. List out all actions in chronological order you will follow in this emergency situation?

Q.5) a) What are the regulations for fixed fire extinguishing systems as per SOLAS?

b) Describe the duties of Chief Officer in relation to the operational Readiness and Maintenance of fire fighting systems and appliances on board a ship as detailed in chapter II of SOLAS?

Q.6) Explain in detail Brain storming process for making innovative decision?

Q.7) Explain in detail some of Organizational Strategies in coping with stress. Elaborate the importance of each of these strategies?

GOVERNMENT OF INDIA

Date: - 10th March-2022

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I) **FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND** **CARE FOR PERSONS ON BOARD (Management Level)**

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q.1) How the operational readiness of the LSA equipment is ensured on board ships?

Q.2) With respect to “ISPS code” explains the following:

- a) Security assessment
- b) Ship Security Plan.
- c) Security Levels and Duties and responsibilities of every individual at various security levels.

Q.3) a) List out the maintenance requirements for Lifting Appliances over a period of 5 years.
b) Prepare maintenance schedule for Hydraulic Hatch Covers.

Q.4) a) Briefly describe the guidelines for development of harmonized contingency plans for ship board emergencies as given in IMO Res. A. 852 (20)?
b) Prepare an Emergency Checklist to deal with fire in pump room.

Q.5) a) When designing a ship, what are the basic principles to be followed to control the damage caused by fire?
b) With the help of a diagram briefly explain the working principle, maintenance requirements and operating procedure of sprinkler and water spraying systems in passenger ships?

Q.6) a) As a chief officer you have to balance company and operational requirements with the personal demand of junior officer and crew on board. In which way can you encourage and motivate your subordinates onboard?
b) Prepare a Standard Operating Procedure (SOP) for a critical ship board operation such as “Entry in to a Cargo Oil tank for inspection” during ballast passage of an Oil Tanker.

Q.7) a) What is the purpose of a work permit? Using a shipboard example explain the importance of a Hot Work Permit?
b) Describe the precautions to be taken before switching on the welding machine?

GOVERNMENT OF INDIA

Date: - 3rd Jan-2022

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q.1) Describe the operational readiness, maintenance & inspection requirement of L.S.A. as per SOLAS Chapter – III.

Q.2) Enumerate the duties & responsibilities of Ship Security Officer SSO.

Q.3) a) With respect to Dock labour regulations, write a short note on:-

Q.4) Prepare an accident report involving a medical case for foot injury to a person whose leg was caught in a bight of a mooring rope during unmooring stations. Include corrective and preventive actions in detail.

Q.5) What should be the contents and use of the ship's FFA training manual? Who is to provide this manual, in how many copies and where should this manual be kept on board?

Q.6) Motivation is a key factor for performance enhancement. As a Mate how will you motivate your subordinates in order to achieve optimum performance level.

Q.7) Prepare a risk assessment for rigging of combination ladder while enroute to the pilot station from sea.

GOVERNMENT OF INDIA

Date: - 11th November-2021

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I) **FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND** **CARE FOR PERSONS ON BOARD (Management Level)**

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q.1) a) Describe in detail, how effective training to the crew can be imparted with respect to LSA and FFA equipment?

b) What is the methodology, you as a chief officer, will adopt to make a various drills more realistic?

Q.2) With respect to ISPS code:

- a) What are the obligations of the ships, terminals and the shipping companies?
- b) What are the different security levels and duties and responsibilities of the ship's crew during each of these levels?

Q.3) a) How the ISM code addresses the prevention of breakdown, reduction in performance and safety of various equipment on board ships?

b) Describe the maintenance work to be carried out in a dry dock for anchor and cables, sea chests, storm valves and under water portion of ship's hull?

Q.4) Prepare the list of immediate action plan in the event of:

- a) Man Overboard
- b) Grounding

Q.5) a) With a neatly labeled sketch explain the fixed deck foam firefighting system fitted for cargo deck protection of a chemical tanker.

b) Describe the maintenance required for the above system to ensure continuous availability.

Q.6) a) How as a chief officer on a chemical tanker with hectic work schedule, will you prevent fatigue to the crew members?

b) What are the various signs will you notice as a sign of fatigue?

Q.7 a) What are the essential elements you will allocate while setting the priorities?

b) What are the factors will you, as a chief officer, consider while delegating various tasks to your subordinates?

GOVERNMENT OF INDIA

Date: - 2nd September-2021

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I) **FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND** **CARE FOR PERSONS ON BOARD (Management Level)**

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q.1) a) Briefly describe the LSA code requirements relating to personnel life saving, appliances such as life jackets, lifebuoys, immersion suits and anti-exposure suits.
b) Prepare an emergency muster list for a ship which has a total complement of 20 persons taking into account all the requirements of muster list and emergency instructions specified in Chapter III of SOLAS.

Q.2) What are the regulations for fixed gas extinguishing systems as per SOLAS? Sketch the CO2 system and describe its release into the engine room.

Q.3) A large container vessel sustains a hole in way of a fuel oil tank while berthing at an inadequately tendered wharf. Some quantity of fuel oil has spilled overside. List all actions you will take to minimize the pollution damage and to protect your interest. Give a list of parties to be informed the documentation necessary under MARPOL Convention and all other necessary actions for this contingency.

Q.4) a) Explain in detail the responsibilities and duties of a safety officer.
b) As per COSWP, what precautions will you take while working aloft?

Q.5) Write briefly on the composition and uses of:
a) Chlorinated Rubber Paints.
b) Epoxy paints, and
c) Polyurethane paints

Q.6) As a Chief Officer on board how will you motivate your team members using effective communication skills to get work done on board? Illustrate with on board situations.

Q.7 a) Prepare a Standard Operating Procedures (SOP) for testing the integrity of cargo sea chest valve in pump room?
b) Prepare a Risk Assessment sheet for navigating in restricted visibility.

GOVERNMENT OF INDIA

Date: - 7th July-2021

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I) **FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND** **CARE FOR PERSONS ON BOARD (Management Level)**

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q.1) a) Briefly describe the LSA code requirements related to construction, markings, packing and stowage of inflatable life raft including its weak – link arrangement, if fitted.
b) Prepare a Muster list on board a cargo ship with 20 persons capacity engaged on international voyages.

Q.2) a) With respect to the ISPS Code, what are the roles and responsibilities of the CSO and SSO?
b) Describe the objectives of ISM Code.

Q.3) a) List out the maintenance requirements for lifting appliances over a period of 5 years.
b) Prepare a maintenance schedule for Hydraulic Hatch Covers.

Q.4) a) Prepare a contingency plan on how to deal with paint room fire.
b) Prepare an Emergency checklist to deal with fire in pump room.

Q.5) Explain with a labeled diagram, the working of Fixed Foam System in Machinery Spaces and what are its advantages over CO₂ system.

Q.6) a) “Chief officer needs to have good leadership and managerial skills”. Justify this statement with onboard situation.
b) As a chief officer how and when will you use “Situational Leadership” to get effective work done from your team members?

Q.7) a) As a chief officer, how will you improve safety awareness of crew and officers on board? What various methods will you use?
b) Describe structured ship board training program as per STCW 2010.

GOVERNMENT OF INDIA

Date: - 3rd March-2021

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I) **FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND** **CARE FOR PERSONS ON BOARD (Management Level)**

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q.1) a) How will you ensure operational readiness of the Survival Crafts on board your ship as per the Regulation 20 of Chapter III of SOLAS?

b) Describe the maintenance and inspection procedure for Life Jackets, Immersion suits, Thermal protective aids and Line throwing appliances?

Q.2) Under what authorized dock labour inspector is permitted to carry out inspection? Give the details of the examinations and inspection carried out as per Dock Labour Act.

b) Describe the Best Management Practices (BMP) to be followed to deter Piracy.

Q.3) a) List out the maintenance requirements for lifting appliances over a period of 5 years.

b) Prepare a maintenance schedule for hydraulic hatch covers.

Q.4) a) Briefly describe the guidelines for development of harmonized contingency plans for ship board emergencies as given in IMO res.A.852 (20).

b) Prepare an Emergency checklist to deal with fire in pump room.

Q.5) a) Briefly describe the SOLAS requirements relating to 'operational readiness and maintenance' of life saving and fire fighting appliances on board ships.

b) Describe the maintenance and inspection procedures for portable fire extinguishers, fire hydrants and fire houses & nozzles.

Q.6) a) Describe the role of DPA as per ISM code within your organisation. Describe the responsibility of company to provide necessary resources and support to DPA and Master for effective implementation off safety management system as per ISM code.

b) Explain the basic principles of effective resource management.

Q.7 a) Explain the term 'Overriding Operational Conditions' in relation to rest hour requirements.

b) Prepare a maintenance and inspection schedule for ropes and wires in use on board.

GOVERNMENT OF INDIA

Date: - 10th December-2020

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I) FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q.1) a) With reference to SOLAS, list the on-board training and instructions you should give to each crew member with model training schedule.
b) Prepare an Emergency Muster List for a ship with a total complement of 21 (4 deck officers) (including master), 4 engineer officers, Electrician, 5 deck ratings, 3 engine ratings, 2 catering ratings, 1 deck and 1 engine cadet. Ensure all the information as required by SOLAS is shown.

Q.2) With respect to “ISPS code” explain the following:

- a) Ship security assessment
- b) Ship security plan
- c) Security levels, duties and responsibilities of every individual at various security levels.

Q.3) a) Prepare a painting scheme for cargo and other pipe lines on the main deck.

b) Describe the maintenance work to be carried out in dry dock for anchors & cables, sea chests, storm valves and under water portion of ship’s hull.

Q.4) a) Prepare a detailed emergency checklist for action to be taken in case of “collision” with the pilotage waters.

b) Describe the modern tools and equipments available for damage control which can be used on board in case of flooding or other structural damages.

Q.5) a) Describe the fixed and portable fire-extinguishing arrangements provided in machinery spaces of Oil Tankers?

b) Describe the complete maintenance procedure i.e. weekly, monthly, quarterly, yearly and five yearly routines for fire hydrants, fire dampers EEBD and SCBA?

Q.6) a) Prepare a risk assessment for the task of over hauling of remotely operated hydraulic valve of cargo pipeline inside the tank, keeping in mind all the mandatory requirements.

b) Explain the signs of fatigue and causes of fatigue.

Q.7 a) List out the essential Leadership and Managerial Skills required for a Chief Officer onboard the ship.

b) How will you ensure that requirements regarding hours of work and rest periods as per ILO / MLC 2006 / STCW 2010 are being implemented effectively?

GOVERNMENT OF INDIA

Date: - 13th October-2020

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I) **FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND** **CARE FOR PERSONS ON BOARD (Management Level)**

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q.1) Describe the operational readiness, maintenance and inspection requirement of live saving appliances as per SOLAS Chapter – III.

Q.2) a) Explain the role of Safety Committee on-board the ship.
b) Explain the purpose and objectives of “Code of Safe Working Practices”.

Q.3) State the advantages of a Planned Maintenance System. Assuming you are taking over a second-hand ship, explain how will you assist your superintendent in creating a computerized PMS in the absence of any past data from previous owners/ operators?

Q.4) As a chief officer on a large container vessel, you sustain damage in way of a fuel oil tank while berthing alongside. Some quantity of fuel oil has polluted in port. List your actions to minimize the pollution. Give a list of various drills that are carried out on board ships.

Q.5) Sketch and describe a fixed CO₂ Fire Fighting system. What safety precautions will you take prior to inspection and maintenance of this system?

Q.6) a) List out some barriers to effective communication on board. Explain with onboard situation.
b) What is personal power and position power? Explain how will you, as a chief officer, motivate your crew keeping a balance between the two?

Q.7 a) Make standard operating procedure (SOP) for renewal of runner wire of a Life Boat.
b) Make a risk assessment for navigating in narrow channel.

GOVERNMENT OF INDIA

Date: - 8th Jan-2020

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I) **FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND** **CARE FOR PERSONS ON BOARD (Management Level)**

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q.1) a) With reference to SOLAS, list the basic familiarization training you would give to a Newly joined cadet.

b) Briefly describe the purpose & objectives of LSA code.

Q.2) a) Enumerate the duties & responsibilities of Ship Security Officer (SSO)?

b) What is Planned Maintenance System (PMS) & what are its advantages?

Q.3) a) With respect to DOCK LABOUR REGULATIONS, write a short notes on:-

i) Responsible Person & Competent Person ii) Test & Periodical examination of lifting appliances.

b) Prepare the list of essential maintenance items to be covered under the Dry Dock defect list.

Q.4) As a chief officer on a large container vessel, you sustain damage in way of a fuel oil tank while berthing alongside. Some quantity of fuel oil has polluted in port. List your actions to minimize the pollution & give a list of various drills that are carried out on board ship under various conventions & codes.

Q.5) Carry out a Risk Assessment for carrying out Inspection of a cargo tank in an oil tanker.

Q.6) Motivation is a key factor for performance enhancement, as a mate how will you motivate your subordinates in order to achieve optimum performance level.

Q.7) a) Explain with the help of block diagram method of effective communication on a ship.
b) List & explain various barriers in effective communication on a ship.

GOVERNMENT OF INDIA

Date: - 9th Oct-2019

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I) **FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND** **CARE FOR PERSONS ON BOARD (Management Level)**

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q.1) a) As per chapter III of SOLAS, describe the requirements of 'Training Manual' and Instructions for on board maintenance of life saving appliances.

b) As per SOLAS how will you ensure to conduct fire drills in a realistic manner?

Q.2) a) In Monthly Safety Committee meeting, describe the various agenda items to be discussed.

b) Draw up a checklist for conducting routine safety inspections onboard by safety officer.

Q.3) a) How will you carry out maintenance of cargo handling equipments for a tanker ship?

b) Draw out a planned maintenance and inspection schedule for lifeboats, davits and Winches.

Q.4) a) Draw a plan for rescue of survivors from other abandon ship.

b) Explain the constructional features with regard to damage control of a bulk carrier.

Q.5) a) List out the additional firefighting equipments required for carriage of dangerous cargoes.

b) Explain the functioning and purpose of CO₂ fixed firefighting systems found onboard tanker ships.

Q.6) a) Explain why effective communication is a vital clog for smooth running of ships?

b) How will you motivate your junior officers as part of bridge team management?

Q.7) a) Explain the principles underlying the ISM code.

b) Describe the hours of work and rest hours for watch keepers as per STCW and MLC.

GOVERNMENT OF INDIA

Date: - 8th July-2019

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q.1) a) Describe the operational readiness, maintenance and inspection requirements of Life saving appliances as per SOLAS chapter – III?

b) Prepare a list of life saving appliance required as per Chapter III of SOLAS for a Chemical Tanker built in 2012 engaged in International Voyages?

Q.2) a) Enumerate the duties & responsibilities of Ship Security Officer (SSO)?

b) Define different various security levels.

Q.3) a) What is planned maintenance System (PMS)? State the advantage of a planned maintenance system. Is it mandatory to have PMS and under which regulation / convention? Can your ship be detained by PSC inspector in absence of a PMS on board?

b) As a Chief Officer explain how would you assist in preparing and implementing a planned Maintenance System for a new building ship, which is in her final stage of delivery?

Q.4) a) As Chief Officer on duty on Bridge while at sea in coastal area, observed heavy thick smoke in the sky at a distance of about 5 miles from your vessel. While checking with Binocular you also see some flames and it seems that a small craft like fishing boat is in heavy fire. Describe your immediate action and Contingency plan for rescue of survivors from boat or sea?

b) Prepare an Annual Drill Planner for effective conduct of all the statutory drills and exercises.

Q.5) a) Describe fire Safety Objectives? In order to achieve the fire safety objective what functional requirements are embodied in the regulations of SOLAS chapter II?

Q.6 a) Explain different types of communication.

b) What are the different techniques that can be adopted to motivate the crew members on board the ship to obtain optimum results?

Q.7 Explain in detail situational theory of Leadership in detail with onboard example.

GOVERNMENT OF INDIA

Date: - 5th April-2019

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I) FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q.1) a) Explain what is the purpose of LSA code?

b) List requirements for rescue boats as per LSA code?

Q.2) a) As a chief officer how will you prepare your ship to comply with requirements of security when at Anchor?

b) List various duties of OOW with regard to security during port watch at berth?

Q.3) Prepare a planned maintenance routine for the totally enclosed lifeboat and the associated gravity davit, covering weekly, monthly, quarterly, annual and 5 yearly maintenance, inspections and tests.

Q.4) Prepare a contingency plan for rescue of survivors from another ship at sea.

Q.5) Prepare a planned maintenance routine for the SCBA sets and the associated fireman's outfit covering weekly, monthly, quarterly, annual and 5 yearly maintenance, inspections and tests.

Q.6 Discuss management of resources and personal with regards to prioritization, fatigue control, communication and leadership.

Q.7 a) Make Standard Operating Procedure (SOP) for renewal of runner wire of a Life boat.

b) Make a risk assessment for the same.

GOVERNMENT OF INDIA

Date: - 9th Jan-2019

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q.1) a) Explain LSA Code.

b) List the requirements for lifeboat as per LSA Code.

Q.2) a) Prepare a contingency plan for piracy?

b) List the actions required in sequence during ship search drills?

c) What are the reporting requirements for transiting piracy areas?

Q.3) a) As a Ch/off, prepare a plan to implement PMS on board a newly built Delivery vessel.

Q.4) Prepare emergency contingency checklist for i) grounding, ii) collision.

Q.5) a) What are the fire safety objectives?

b) When designing a ship, what are the basic principles to be followed to control the damage caused by fire.

Q.6 a) As a Ch/off explain the areas you would concentrate to be an effective Leader & increase the efficiency of crew.

b) Explain human error & how can it be minimized?

Q.7 a) What is risk assessment?

b) Prepare a risk assessment sheet for entering in a double bottom ballast tank.

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GOVERNMENT OF INDIA

Date: - 8th Oct-2018

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

| TIME: 3 Hours | PASS MARKS: 75 | MAX. MARKS: 150 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------|
| <u>Notes:</u> | | |
| <ol style="list-style-type: none">1. Attempt any 6 questions out of 7.2. All questions carry equal marks i.e. 25 marks each.3. Where applicable sketches should be drawn to support the answer. | | |

Q.1) a) How will you organize and conduct the fire drill and abandon ship drill as per SOLAS.
b) Why do you train personnel on board. Explain the process you would follow to initiate the training of a new deck officer joining an oil tanker in port before taking over his duties and why is it important to follow this process.

Q.2) a) State the criteria for appointing a safety officer and explain in detail his responsibilities in ensuring safety on board.
b) Draw up a checklist for conducting routine safety inspection on board by safety officer.

Q.3) a) What precautions would you take before and while painting steel deck plates?
b) Fore peak water ballast tank is showing signs of corrosion. How would you treat it?

Q.4) a) A coaster has collided with your anchored ship, a loaded crude oil tanker, on which you serving as Chief Officer. Cargo is escaping from above the waterline. List the initial and subsequent actions that you will take.
b) Describe the requirements of Chapter II-1 of SOLAS relating to protective coating of dedicated sea water ballast tanks and double-side skin space?

Q.5) a) With the help of a suitable sketch enumerate the operating principle and maintenance requirements of smoke detection system fitted for cargo holds.
b) Describe the onboard test procedure and interval for automatic sprinkler system and hyper mist water spray system.

Q.6 a) List out some barriers to effective communication on board. Explain with onboard situation.
b) What is personal power and position power? Explain how will you, as a Chief Officer, motivate your crew keeping a balance between the two?

Q.7 a) What are the guidelines given in the STCW code regarding on board training for cadets?
b) How will you ensure that rest hour requirements for watch keepers and other crew members are being complied with as per STCW 2010 and MLC 2006?

GOVERNMENT OF INDIA

Date: - 6th July-2018

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

| TIME: 3 Hours | PASS MARKS: 75 | MAX. MARKS: 150 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------|
| <u>Notes:</u> | | |
| 1. Attempt any 6 questions out of 7. 2. All questions carry equal marks i.e. 25 marks each. 3. Where applicable sketches should be drawn to support the answer. | | |

Q.1) a) With reference to SOLAS, list the on-board training and instruction you should give to each crew member with model training schedule.

b) Prepare an Emergency Muster List for a ship with a total complement of 21 (4 Deck Officers (including Master), 4 Engineer Officers, Electrician, 5 Deck ratings, 3 Engine Ratings, 2 Catering Ratings, 1 Deck and a Engine cadet). Ensure all the information as required by SOLAS is shown.

Q.2) What are the salient features of the ISPS code to ensure the security of the ship's crew and passengers?

Q.3) a) How Corrosion prevention is important to ensure safety of life and marine environment?

b) How planned maintenance system helps in achieving the safety of the crew on board the ship?

Q.4) Prepare the list of immediate action plan in the event of:

- a) Fire in the engine room
- b) Cargo oil spillage.

Q.5) With respect to an oil tanker how each of the following are achieved:

- a) Prevention of Fire & Explosion in cargo tanks
- b) Prevention of Fire & Explosion in Accommodation and Machinery spaces
- c) Prevention of Fire & Explosion in the cargo pump room.

Q.6 a) Does motivation come from within a person or is it a result of situation? Explain with the help of relevant theory and shipboard examples?

b) Briefly explain the salient features of the ISM Code.

Q.7 a) What are the essential elements of a risk assessment and the relevance of every element?

b) Prepare a risk assessment, as a chief officer; you will make to carry out a hot work inside the cargo tank of a chemical tanker.

GOVERNMENT OF INDIA

Date: - 9th April-2018

FIRST MATE OF A FOREIGN GOING SHIP (PHASE – I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE & MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q.1) a) With reference to LSA code, enumerate the requirements for construction, stability and markings of inflatable liferafts?

b) For a bulk carrier built in 2012 and engaged on international voyages, prepare a list of LSA as per SOLAS Chapter III.

Q.2) With reference to “ISPS Code”, describe

- a) Ship Security Assessment**
- b) Ship Security Plan**
- c) Procedure for amendment of Ship Security Plan**

Q.3) a) As a chief officer, prepare a plan to implement PMS on board a newly built yard delivery vessel.

b) Write short notes on

- i) Preventive Maintenance
- ii) Incidental Maintenance.

Q.4) As a Chief officer, prepare a contingency plan

a) Rescue of survivors from another ship.

b) Rescuing an unconscious person from pump room bottom platform.

Q.5) a) As a chief officer, how will you improve safety awareness of crew and officers on board? What various methods will you use?

b) Describe structured shipboard training program as per STCW.

Q.6) "Using different Situational Leadership Styles contributes to effective bridge team work". Justify this statement with on board situations.

Q.7 a) What is Risk Assessment?

b) Prepare a Risk Assessment sheet for entering in a double bottom space of a ballast tank.



GOVERNMENT OF INDIA
FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)
FUNCTION: FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND MANAGERIAL SKILLS

TIME: 3 HOURS

PASS MARKS: 75

MAX MARKS: 150

Notes:

1. Attempt any 6 questions out of 7
2. All questions carry equal marks i.e. 25 marks each
3. Where applicable sketches should be drawn to support the answer

Q. 1 a) Briefly describe the LSA code requirements related to on-load release & retrieval systems (OLRRS) of lifeboats.

12 b) Prepare an Annual Drill Planner for conducting all the drills as per SOLAS, MARPOL and ISPS codes.

Q. 2 a) As a safety officer, list the various responsibilities and duties you are required to fulfill. Enumerate some proactive measures you will take to enhance safety awareness and compliance onboard.

b) As a Ship security officer, how will you ensure the security of the vessel?

Q. 3 a) What is a planned maintenance system (PMS) and what are its advantages? Is it mandatory to have PMS and under which regulation/convention? Can your ship be detained by a PSC inspector in absence of a PMS onboard?

b) Prepare a contingency plan to deal with leakages and spills of dangerous cargoes inside the cargo hold.

15 b) Enumerate the method to carry out situation and risk assessment? Carry out a risk assessment in a proper format for lowering of lifeboats up to embarkation decks at sea as part of the routine SOLAS requirements.

Q. 4 a) Draw a sketch to show working of CO₂ system in use on ships.

b) Explain why CO₂ is used for fire extinguishing.

Q. 6 a) Motivation is key factor for performance enhancement. As a Mate, how will you motivate your subordinates in order to achieve optimum performance level?

b) What are the most important values one must demonstrate as a Leader? How can a leader fail? Give an example of a situation when you failed as a Leader.

Q. 7 a) Develop a Training plan for all shipstaff upon takeover of a new ship at the yard, and to be implemented BEFORE the vessel sails for her first voyage.

10 b) What are SOP's (Standard Operation Procedures) and why are they needed? Prepare a SOP for "Refilling of SCBA bottles using a shipboard SCBA compressor".

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GOVERNMENT OF INDIA

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND
CARE FOR PERSONS ON BOARD (Management Level)

569

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND MANAGERIAL SKILLS

TIME: 3 HOURS

PASS MARKS: 75

MAX MARKS: 150

Notes:

1. Attempt any 6 questions out of 7
2. All questions carry equal marks i.e. 25 marks each
3. Where applicable sketches should be drawn to support the answer

Q.1 (a) As per chapter III of SOLAS relating to operational readiness, maintenance and inspections of life saving appliances, Describe the requirements?

(b) As a chief officer how will you conduct abandon-ship drills and fire drills in a realistic manner

Q.2 (a) Explain the role of onboard safety committee for ensuring safe practices onboard
(b) Describe the procedures available onboard ships for reporting of accidents

Q.3 (a) b) What do you understand by Planned Maintenance Schedule (PMS)?

(b) How does Planned Maintenance Schedule (PMS) serve to reduce cost and increase reliability of hull, machinery and equipments?

Q.4 (a) Draw a plan for rescue of victims from enclosed space (DB tank)

(b) Explain the plan for spillage contingencies with respect to dangerous cargoes

Q.5 (a) Explain the actions taken with respect to life saving appliances in case of man over board emergency situations

(b) Explain the functioning and purpose of foam fixed fire fighting systems found onboard tanker ships

Q.6 (a) What factors affect the behavior of subordinates and how does it affect discipline on board ship?

(b) How will you motivate the crew to complete tank cleaning expeditiously

Q.7 (a) Explain Standard Operating Procedures (SOP)

(b) Prepare a Standard Operating Procedures (SOP) for tank cleaning for a tanker ship

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GOVERNMENT OF INDIA

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

FUNCTION: FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND
CARE FOR PERSONS ON BOARD (Management Level)

1/1/17
PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND MANAGERIAL SKILLS

TIME: 3 HOURS

PASS MARKS: 75

MAX MARKS: 150

Notes:

1. Attempt any 6 questions out of 7
2. All questions carry equal marks i.e. 25 marks each
3. Where applicable sketches should be drawn to support the answer

Q.1 a) Describe the requirements stipulated in chapter III of SOLAS relating to operational readiness, maintenance and inspections of lifesaving appliances

b) As a chief officer, how will you ensure that abandon-ship drills and fire drills are conducted in a realistic manner in order to raise the confidence level of ship's crew to meet any emergency situation?

Q.2 a) List the items to be covered during the chief officer's weekly safety inspection of ship as prescribed in code of safe working practices for merchant seamen

b) Describe the duties & responsibilities of ship board personnel's at various security level

Q.3 a) Describe in detail as how you would scale and repaint the funnel

b) What parts of the hull are most liable to corrosion, and how would you counteract this? How would you arrest localized pitting?

Q.4 a) Describe the immediate actions to be taken to minimize the damage to the ship following a fire or explosion

b) Prepare a contingency plan to deal with leakages and spills of dangerous cargoes inside cargo hold

Q.5 a) When designing a ship, what are the basic principles to be followed to control the damage caused by fire?

b) With the help of a diagram, briefly explain the working principle, maintenance requirements, operating procedure of sprinkler & water spraying systems in passenger ships

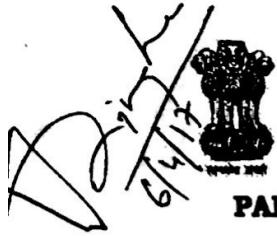
Q.6 a) As a chief officer, you have to balance company and operational requirements with the personal demand of junior officer and crew on board. In which way can you encourage and motivate your subordinates onboard

b) Prepare a standard operating procedure (SOP) for a critical ship board operation such as "Entry in to a cargo oil tank for inspection" during ballast passage of an Oil Tanker

Q.7 a) What is the purpose of a work permit? Using a shipboard example explain the importance of a "Hot work" permit

b) Describe the precautions to be taken before switching on the welding machine

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GOVERNMENT OF INDIA

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

FUNCTION: FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND
CARE FOR PERSONS ON BOARD (Management Level)

57B

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND MANAGERIAL SKILLS

TIME: 3 HOURS

PASS MARKS: 75

MAX MARKS: 150

Notes:

1. Attempt any 6 questions out of 7
2. All questions carry equal marks i.e. 25 marks each
3. Where applicable sketches should be drawn to support the answer

Q.1 (a) Explain LSA code

(b) List the requirements for lifeboats as per LSA code

Q.2 (a) Explain functional requirements of SMS to comply with ISM code

(b) List out the duties of shipboard safety officer

Q.3 (a) Explain the advantages of PMS

(b) As a Chief officer, how will you prepare plans for maintenance and inspections of LSA on a bulk carrier

Q.4 (a) Prepare Emergency contingency checklist for:

(i) Grounding (ii) Fire in Engine room for a LNG tanker

Q.5 (a) Explain about the various types of fire detectors found on oil tanker ships

(b) How will you organise fire fighting for a "manifold fire" on a chemical tanker

Q.6 (a) Explain about human error and how can it be minimised?

(b) What is fatigue and how can it be reduced?

Q.7 (a) Describe importance of "onboard training"

(b) How will you train a new cadet onboard?

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fire resistive dam



54B

GOVERNMENT OF INDIA
FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)
FUNCTION: FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND
CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND MANAGERIAL SKILLS

TIME: 3 HOURS

PASS MARKS: 75

MAX MARKS: 150

Notes:

1. Attempt any 6 questions out of 7
2. All questions carry equal marks i.e. 25 marks each
3. Where applicable sketches should be drawn to support the answer

✓ Q.1 a) Briefly describe the purpose and objectives of LSA code
b) Briefly describe the LSA code requirements related to construction, stability and markings of inflatable life rafts

✓ Q.2 Emergency Preparedness is requirement as per ISM code. How you achieve this on board in respect of
(a) Grounding of passenger ship on reef
(b) Drifting of dead ship towards oil production plat form

✓ Q.3 (a) As per 'Dock Labour Regulations' describe Responsible Person, Competent Person
(b) As per Code of safe working practices discuss the care and maintenance of ropes and wires

Q.4 (a) When designing a ship, what are the basic principles to be followed? to control the damage caused by fire?
(b) Explain the essentials

✓ Q.5 (a) Briefly explain the functioning and purpose of various fire fighting systems that are being used to control and extinguish the fire onboard the ships
(b) Describe the additional fire fighting appliances required to be carried by ships carrying dangerous goods?

✓ Q.6 (a) As a chief officer explain the areas you would concentrate to be an effective leader and increase the efficiency of crew?
(b) Explain the basic principles of effective resource management

✓ Q.7 Briefly explain the content and application of the STCW convention

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GOVERNMENT OF INDIA

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Drawn Sketches to support answer wherever necessary.

Q. 1 a) As per SOLAS, what are the general requirements of immersion suit and anti exposure suit.
b) What are advantages of conducting drills on board? Draw an annual drill planner showing various drill which are done on board.

Q. 2 a) As the safety officer of your vessel draw up a 'Checklist' for conducting routine safety inspections related to personal health and safety.
b) State the criteria for appointing a 'Safety Officer' and explain his responsibilities in ensuring safety on board?

Q. 3 Prepare your work plan for next six months of your tenure on board involving planned maintenance, checks and corrective actions in respect of the following fire fighting / prevention equipments on board:
a) Fixed gas detection system for cargo holds and/or voids.
b) Dry powder and CO₂ Type fire extinguishers.
c) All bilge and ballast pumping arrangements including chain locker and void spaces.

Q. 4 a) As a chief officer, prepare a PMS plan for maintenance of hatch covers.
b) Write short notes on: i) fixed CO₂ extinguishing system ii) fixed foam extinguishing system for cargo spaces.

Q. 5 Carry out a risk assessment for carrying out inspection of a cargo tank in an oil tanker.

Q. 6 Define: a) Authority and b) Assertiveness.
Explain how to motivate the crew as a chief officer keeping a balance between the two.

Q. 7 a) Carry out a 'Risk Assessment' for a 'Ship to Ship Transfer' on an oil tanker?
b) Explain the term "Overriding operational conditions" in relation to rest hours requirements as per STCW 2010.



GOVERNMENT OF INDIA

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Drawn Sketches to support answer wherever necessary.

Q. 1 a) Describe the requirements stipulated in chapter III of SOLAS relating to operational readiness, maintenance and inspections of life saving appliances?
 b) As a chief officer, how will you ensure that abandon-ship drills and fire drills are conducted in a realistic manner in order to raise the confidence level of ship's crew to meet any emergency situation?

Q. 2 a) List the items to be covered during the chief officer's weekly safety inspection of ship as prescribed in Code of safe working practices for merchant seamen?
 b) Describe the duties and responsibilities of ship board personnel's at various security levels?

Q. 3 a) What are the advantages of computerised Planned Maintenance System (PMS) over conventional maintenance scheme?
 b) Prepare a planned maintenance schedule for cargo handling crane.

Q. 4 a) Prepare a contingency plan for rescue of survivors from another ship or sea.
 b) Describe the procedure for rigging and effective use of ground tackle to re-float a grounded vessel.

Q. 5 a) With the help of a diagram briefly explain the working principle, maintenance requirements and operating procedure of the CO_2 fixed fire fighting system fitted for Cargo holds?
 b) Describe the duties of chief officer in relation to regular testing and maintenance of Life saving appliances on board a ship as prescribed in the Safety Management System.

Q. 6 a) Explain the duties and responsibilities of deck bosun or senior AB who is supervising the deck crew for watch keeping and maintenance.
 b) Briefly state the area of discipline you would like to maintain amongst the deck crew and Junior Officers including deck cadet as Mate on Indian ship.

Q. 7 a) Carry out risk assessment for approaching a pilot boarding ground to pick up pilot on board a VLCC in congested waters such as Singapore Strait.
 b) State the training methods you would use as a Mate to train deck cadets under Structured Ship board Training Programme (SSTP).



GOVERNMENT OF INDIA

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

11/4/16
AM

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND
CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND
MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Drawn Sketches to support answer wherever necessary.

Q. 1 a) Briefly describe the LSA code requirements relating to personnel life saving appliances such as life jackets, life buoys, immersion suits and anti-exposure suits?
b) Prepare an emergency muster list for a ship which has a total complement of 20 persons taking in to account all the requirements of muster list and emergency instructions specified in chapter III of SOLAS.

Q. 2 a) With respect to "Dock Labour Regulations" Discuss the following:
i) Responsible Person and Competent Person
ii) Test and Periodical examination of lifting appliances
b) As per the code of safe working practices for merchant seaman, explain the care and maintenance required for ropes and wires?

Q. 3 a) What are the factors, which need to be considered while deciding upon the interval between two inspections or schedule of maintenance of an item in the Planned Maintenance System?
b) Draw out a Planned Maintenance schedule for Accommodation ladders and pilot hoists.

Q. 4 a) Prepare a contingency plan for flooding following rupturing of side shell due to cargo movement.
b) Explain the essential constructional features of a ship with regards to damage control?

Q. 5 a) Explain the methods and aids available for fire detection on board Ro-Ro passenger vessels.
b) Briefly explain the requirements of Chapter-2 of SOLAS which specifies the measures to limit the fire growth potential and smoke generation potential within the ship.

Q. 6 a) Prepare a risk assessment for the task of over hauling of remotely operated hydraulic valve of cargo pipeline inside the tank, keeping in mind all the mandatory requirements.
b) Explain the signs of fatigue and causes of fatigue.

Q. 7 a) List out the essential Leadership and Managerial Skills required for a Chief Officer on board the ship.
b) How will you ensure that requirements regarding hours of work and rest periods as per ILO/MLC 2006/ STCW 2010 are being implemented effectively?



GOVERNMENT OF INDIA

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND
CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND
MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q. 1 a) What are the LSA code requirements regarding markings of
inflatable life rafts and life boats?
b) Describe your actions as chief officer on a tanker in case of an
"explosion" in a pump room?

Q. 2 a) How will you hold a safety committee meeting and what are
the agendas which you will discuss?
b) How will you do a ship security assessment and what are the
various considerations will you take into account?

Q. 3 a) List out the maintenance requirements for Lifting Appliances
over a period of 5 years.
b) Prepare a maintenance schedule for Hydraulic Hatch Covers.

Q. 4 a) How will you prepare a "planned maintenance system" for a
newly built vessel just prior to her delivery?
b) Prepare a "PMS" for your 'rescue boat'.

Q. 5 a) What is the purpose of the work permit?. What are the
contents of a 'Work permit'?
b) Prepare a check list for an enclosed space entry and explain
the importance of the same.

Q. 6 "Gaining and maintaining situation awareness is important for
the safe running of the ship". Justify this statement with an
onboard situation.

Q. 7 a) As a chief officer of a container vessel how would you prepare
a training schedule for a new junior deck officer?
b) How will you motivate your crew in order to extract the
maximum output from them?



GOVERNMENT OF INDIA

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

46 B
9/10/15

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND
CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND
MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q. 1 *(a)* With reference to SOLAS, list the basic familiarization training you would give to a new joining cadet.

(b) When conducting safety drills, what points will you consider to make it more effective?

Q. 2 *(a)* As a safety officer of your vessel, list the various responsibilities and duties which you are required to fulfil.
(b) Describe the purpose and contents of Training Manual and "Instructions for on board maintenance" of life saving appliances as per CH.III OF SOLAS ?

Q. 3 *what is risk assessment what are steps involved in*
(a) Explain in detail the responsibilities and duties of a safety officer. *(Carrying out own*
(b) As per COSWP what precautions will you take while working aloft? *risk areas*

Q. 4 As a chief officer on a large container vessel, you sustain damage in way of a fuel oil tank while berthing along side. Some quantity of fuel oil has polluted the port. List your actions to minimize the pollution and give a list of various drills that are carried out on board ship under various conventions and codes.

Q. 5 Explain, with a diagram, the working of Fixed Foam System in Machinery spaces and what are its advantages over CO₂ System.

Q. 6 *(a)* State the factors affecting behaviour of subordinates & juniors on board the vessels.
(b) List the various elements of the 'ISM CODE'.

Q. 7 Motivation is a key factor for performance enhancement. As a mate how will you motivate your subordinates in order to achieve optimum performance level.



GOVERNMENT OF INDIA

VIRENDER SINGH RATHORE



FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Drawn Sketches to support answer wherever necessary.

Q. 1 a) With reference to SOLAS, list the on-board training and instructions you should give to each crew member with model training schedule.
b) Prepare an Emergency Muster List for a ship with a total complement of 21 (4 Deck Officers (including Master), 4 Engineer officers, Electrician, 5 Deck ratings, 3 Engine Ratings, 2 catering ratings, 1 Deck and 1 Engine cadet). Ensure all the information as required by SOLAS is shown.

Q. 2 With respect to "ISPS Code" explain the following:
a) Ship Security assessment b) Ship Security Plan
c) Security Levels and Duties and responsibilities of every individual at various security levels.

Q. 3 a) Describe in detail how you would scale and repaint the funnel?
b) What parts of the hull are most liable to corrosion, and how would you counteract this? How would you arrest localised pitting?

Q. 4 a) Describe the immediate actions to be taken to minimise the damage to the ship following a fire or explosion.
b) Prepare a contingency plan to deal with leakages and spills of dangerous cargoes inside cargo hold.

Q. 5 a) Briefly describe the SOLAS requirements relating to 'operational readiness and maintenance' of life saving and fire fighting appliances on board ships?
b) Describe the maintenance and inspection procedures for portable fire extinguishers, fire hydrants and fire hoses & nozzles?

Q. 6 a) What are the main thrust areas in which a chief officer should concentrate to make an efficient and effective work group as its leader?
b) Enumerate the methods to carry out situation and risk assessment?

Q. 7 'Emergency preparedness' is required as per ISM code. How will this be achieved on board in respect of the following?
a) Emergency Generator
b) Hyper-mist water sprays system.



GOVERNMENT OF INDIA

A.M

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND
CARE FOR PERSONS ON BOARD (Management Level)PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND
MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Drawn Sketches to support answer wherever necessary.

Q.1 a) Explain what purpose of LSA code is and when it came into force.
b) List requirements for Life boats as per LSA Code.

Q.2 a) List and explain various agenda points for safety meeting on board a ship
b) Collision: Precautions and procedures before and after.

Q.3 a) Explain
i) Preventive maintenance-condition monitoring ii) Corrective maintenance iii) Incidental maintenance.
b) Explain PMS of any 3 types of FFA equipments on cargo ship.

Q.4 Explain as a chief officer how to draw plans to deal with
a) Rescue of survivors from another ship
b) Rescue of person from sea.

Q.5 a) Explain as a chief officer how to draw plans to deal with Paint room Fire.
b) List and Explain FFA to be carried on an oil tanker.

Q.6 Explain
a) Explain with help of block diagram method of effective communication on a ship.

b) List and explain various barriers in effective communication on a ship.

Q.7 a) What is Risk assessment?
b) Explain Risk assessment for entry into Double bottom ballast tanks for purpose of inspection.



GOVERNMENT OF INDIA

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Drawn Sketches to support answer wherever necessary.

Q. 1 a) What are the LSA code requirements in relation to construction, stability & markings of inflatable life rafts?
b) Describe your actions as chief officer on a tanker in case of an "explosion" in a pump room.

Q. 2 a) Discuss the main feature of ISPS code & state the contents of the ships security ~~plan~~ plan.
b) As a ship security officer, how will you ensure the security of your vessel?

Q. 3 a) Explain the role of the safety committee on board?
b) Explain the purpose & the objectives of the 'code of safe working practice'.

Q. 4 a) How will you prepare a "planned maintenance system" for a newly built vessel just prior to her delivery?
b) Prepare a "PMS" for your 'rescue boat'.

Q. 5 a) Prepare a check list to deal with fire in the accommodation of your vessel.
b) Prepare an annual drill planner, for conducting all the drills as per SOLAS, MARPOL and ISPS codes.

Q. 6 As per ISM code explain the following:
a) Role of the company
b) Role of the D.P.A.
c) Role of Master & his overriding authority.
d) Basic principles of effective resource management.

Q. 7 a) As a chief officer of a container vessel how would you prepare a training schedule for a new junior deck officer?
b) How will you motivate your crew in order to extract the maximum output from them?



GOVERNMENT OF INDIA

(P.M.)
1/2/11

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q. 1 a) Describe the requirements of embarkation, launching and recovery arrangements for life boats as prescribed in chapter - III of SOLAS?
b) Prepare a list of Life Saving Appliances required as per chapter - III of SOLAS for a bulk carrier built in 2012 engaged in International voyages.

Q. 2 a) Describe the various agenda items to be discussed in the monthly safety committee meeting on board a ship?
b) Enumerate the best management practices to be followed on a vessel to prevent incidents of piracy in the piracy prone region.

Q. 3 a) As a Chief Officer explain how you would assist in preparing and implementing a Planned Maintenance System for a new building ship, which is in the final stages of delivery.
b) Prepare a Maintenance & calibration schedule for fixed gas detection system and portable gas measuring instruments on board a ship.

Q. 4 a) Prepare a contingency plan for rescue of survivors from another ship or sea.
b) Describe the procedure for rigging and effective use of ground tackle to re-float a grounded vessel.

Q. 5 a) With the help of a diagram briefly explain the working principle, maintenance requirements and operating procedure of the CO_2 fixed fire fighting system fitted for Cargo holds?
b) Describe the duties of chief officer in relation to operational readiness of Fire fighting and Life saving appliances on board a ship as detailed in Chapter II and III of SOLAS.

Q. 6 a) How does a safety management system of a company ensure all the objectives of the ISM code are achieved?
b) Does motivation come from within a person or is it a result of situation? Explain with the help of relevant theory and shipboard examples.

Q. 7 a) Carry out risk assessment to navigate the vessel in fog in congested waters.
b) Prepare a Standard Operating Procedure (SOP) for a critical ship board operation such as "connection / disconnection of spool piece between the sea chest and cargo line" in the pump room of a product tanker.



GOVERNMENT OF INDIA

(A.M.)

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND
CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND
MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes: 1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Drawn Sketches to support answer wherever necessary.

Q. 1 a) Explain the salient elements of Dock Workers Act, 1934 and Dock workers safety, Health welfare Regulations framed there under effecting the ship operation in ports.
b) What are the duties and powers of the following persons and the provision of Dock workers Act.
i) Chief Inspector of Dock workers
ii) Responsible Individual
iii) Qualified Individual

Q. 2 Write short notes on:
a) Chain Register for lifting appliance
b) Towing manual.
c) Noise Pollution survey report

Q. 3 What do you understand by the term Safety Committee on board. How would you organize a meeting of the above committee under the chairmanship of master? What is the relevance of the code of safe working practices Co-ordination for merchant sea men and safety videos in this context?

Q. 4 a) With reference to IMDG Code, what was the 30th amendment and its 3 annexes. What are the precautions to be observed when loading dangerous goods. What are the important points regarding packing, Marking, Labelling, Placarding to be followed by the ships crew
b) Surveys required to maintain a ship in sea worthy state

Q. 5 State the relevance of MFAG, EMS, Segregation table documentation for the carriage of DG in Packaged form

Q. 6 Your vessel is disabled in the Indian EEZ during severe monsoon months, the company has arranged salvage tug for towing to place of refuge. Prepare the vessel for towing with all personnel on board.

Q. 7 a) What is the main advantage of the harmonised System of Ships Surveys (HSSS)?
b) In present day context what do Underwriters perform.



GOVERNMENT OF INDIA

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes: 1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Drawn Sketches to support answer wherever necessary.

Q. 1 a) As per SOLAS; what are the general requirements of immersion suit and anti exposure suit.

b) What are advantages of conducting drills on board? Draw an annual drill planner showing various drill which are done on board.

Q. 2 a) Prepare a contingency plan to deal with leakage and spill of dangerous cargoes on deck from the container at sea.

b) Describe the purpose and contents of "Training Manual and "Instructions for on board maintenance" of life saving appliances as per Ch. III of SOLAS?

Q. 3 a) Explain in detail the responsibilities and duties of a safety officer.

b) As per COSWP; what precautions will you take while working aloft?

Q. 4 a) As a chief officer prepare a PMS plan for maintenance of hatch covers.

b) Write short notes on
i) Fixed Co2 extinguishing system
ii) Fixed foam extinguishing system for cargo spaces.

Q. 5 Carry out a risk assessment for carrying out inspection of a cargo tank in an oil tanker.

Q. 6 a) As per the ISM Code what do you understand by Key Shipboard Operations and Critical Shipboard Operations? (5 marks)

b) Give TWO examples each for Key Shipboard Operations and Critical Shipboard Operations by detailing the procedural checks. (20 marks)

Q. 7 Motivation is a key factor for performance enhancement. As a mate how will you motivate your subordinates in order to achieve optimum performance level.



GOVERNMENT OF INDIA

H.C.I

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

16/01/2011

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND
CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND
MANAGERIAL SKILLS

3

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes: 1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q. 1 Describe the operational readiness, maintenance and inspection requirement of Life saving appliances as per SOLAS chapter - III?

Q. 2 a) Enumerate the duties &/responsibilities of Ship Security Officer (SSO)?

b) Define different security levels. Explain under which all circumstances, a ship can request completion of a "Declaration of Security"?

Q. 3 a) What is Planned Maintenance System (PMS) and what are its advantages? Is it mandatory to have PMS and under which regulation/convention? Can your ship be detained by a PSC Inspector in absence of a PMS on board?

b) As a Chief Officer explain how would you assist in preparing and implementing a PMS for a new building ship, which is in her final stage of delivery?

Q. 4 a) You are the Chief Officer and on bridge watch at sea in a coastal area. You observe heavy thick smoke in the sky at a distance of about 5 miles from your vessel. While checking with binoculars you also see some flames and it seems that a boat is on fire. Describe your immediate action and contingency plan for rescue of survivors.

b) Prepare an Annual Drill Planner for effective conduct of the statutory drills as per SOLAS and MARPOL? How will you ensure it's proper, effective & result oriented compliance & that it does not merely turn out to be a routine crew muster?

Q. 5 Sketch and describe a fixed CO₂ fire fighting system. What safety precautions will you take prior to inspection and maintenance of this system?

Q. 6 How is 'Need of Knowledge' related to the ability to apply 'Decision making technique'? Explain 'Decision making technique'.

Q. 7 As a safety officer, how would you carry out a risk assessment for a forthcoming operation concerning changing of runner wire and topping wire of deck cranes.



GOVERNMENT OF INDIA

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND MANAGERIAL SKILLS

1907/13

(A)

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q. 1 a) Briefly describe the LSA code requirements relating to personnel life saving appliances such as life jackets, life buoys, immersion suits and anti-exposure suits?

b) Prepare an emergency muster list for a ship which has a total complement of 20 persons taking into account all the requirements of muster list and emergency instructions specified in chapter III of SOLAS.

Q. 2 a) With respect to "Dock Labour Regulations" Discuss the following:

 i) Responsible Person and Competent Person

 ii) Test and Periodical examination of lifting appliances

 b) As per the code of safe working practices for merchant seaman, explain the care and maintenance required for ropes and wires?

Q. 3 a) State the criteria and describe the rationale in choosing suitable paints for a ship's under water areas.

 b) Prepare the list of essential maintenance items to be covered under the Dry dock defect list.

Q. 4 a) When designing a ship, what are the basic principles to be followed to control the damage caused by fire?

 b) Prepare an Emergency Checklist to deal with Fire in Accommodation area.

Q. 5 a) Briefly explain the functioning and purpose of various fixed fire fighting systems that are being used to control and extinguish the fire onboard the ships.

 b) Describe the additional fire fighting appliances required to be carried by ships carrying dangerous goods?

Q. 6 a) How does a safety management system of a company ensure all the objectives of the ISM code are achieved?

 b) Does motivation come from within a person or is it a result of situation? Explain with the help of relevant theory and shipboard examples.

Q. 7 a) Briefly explain the content and application of the STCW convention?

 b) Prepare a brief report on the training of Deck cadets covering the provisions of collision regulation and bridge watch keeping with your assessment and recommendations to the company training officer (CTO) through the Master.



GOVERNMENT OF INDIA

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

Exam
05/04/

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes: 1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q. 1 a) Describe the purpose and objectives of LSA code?
b) Prepare a list of Life Saving Appliances required, as per SOLAS, for a passenger vessel of 400 persons capacity built in 2010 engaged in International Voyages.

Q. 2 a) Describe the procedures for reporting of Accidents, Incidents and Near misses as per safety management system manuals?
b) Explain the duties and responsibilities of ships officers designated with security duties at level 1 and level 2 as per ship security plan?

Q. 3 a) What are the factors, which need to be considered while deciding upon the interval between two inspections or schedule of maintenance of an item in the Planned Maintenance System?
b) Draw out a Planned Maintenance schedule for Accommodation ladders and pilot hoists.

Q. 4 a) Prepare a contingency plan for flooding following rupturing of side shell due to cargo movement.
b) Explain the essential constructional features of a ship with regards to damage control?

Q. 5 a) Explain the methods and aids available for fire detection on board Ro-Ro passenger vessels.
b) Briefly explain the requirements of Chapter-2 of SOLAS which specifies the measures to limit the fire growth potential and smoke generation potential within the ship.

Q. 6 a) People differ in their level of motivation as also in their reasons for working. What might motivate one, may not work for the other. How do you think, identifying these reasons would assist in understanding the behaviour of officers and crew onboard thereby promote a better working environment? Support your answer with suitable examples.
b) Prepare a training schedule for on board training of junior deck officer before assigning him for independent navigational/deck watch.

Q. 7 a) What changes are required to be made in the Safety Management System of the fleet in view of latest amendments to the ISM Code, which entered into force from 1st July 2010?
b) 'Effective communication within the team prevents building up error chains' - Justify this statement with suitable examples.

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND
CARE FOR PERSONS ON BOARD (Management Level)PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND
MANAGERIAL SKILLSChart No
5718

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q. 1 a) Describe the requirements stipulated in chapter III of SOLAS relating to operational readiness, maintenance and inspections of life saving appliances?

b) As a chief officer, how will you ensure that abandon-ship drills and fire drills are conducted in a-realistic manner in order to raise the confidence level of ship's crew to meet any emergency situation?

Q. 2 a) List the items to be covered during the chief officer's weekly safety inspection of ship as prescribed in Code of safe working practices for merchant seamen?

b) Describe the duties and responsibilities of ship board personnel's at various security levels?

Q. 3 a) Prepare a painting scheme for cargo and other pipe lines on the main deck?

b) Describe the maintenance work to be carried out in dry dock for anchors & cables, sea chests, storm valves and under water portion of ship's hull?

Q. 4 a) Prepare a detailed emergency checklist for action to be taken in case of "Collision" within the Pilotage waters.

b) Describe the modern tools and equipments available for damage control which can be used on board in case of flooding or other structural damages.

Q. 5 a) With the help of a suitable sketch enumerate the operating principle and maintenance requirements of smoke detection system fitted for cargo holds?

b) Describe the on board test procedure and interval for automatic sprinkler system and hyper mist water spray system?

Q. 6 a) As a Chief Officer explain the measures you would take to integrate the various human resources available on board your ship for effective team performance.

b) "During the deck rounds, you have noticed that few crew members are not performing their tasks as per the instructions given to them. Also bosun reports to you that these crew members are abusing him every day and not doing their job properly".

In this scenario, how will you exercise the authority as Chief Officer?

Q. 7 a) What are the guidelines given in the STCW code regarding On Board training for Cadets?

b) How will you ensure that rest hour requirements for watch keepers and other crew members are being complied with as per STCW 2010 and MLC 2006?



GOVERNMENT OF INDIA

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND MANAGERIAL SKILLS

7

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes: 1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q. 1 a) With reference to SOLAS, list the on-board training and instructions you should give to each crew member with model training schedule.

b) Prepare an Emergency Muster List for a ship with a total complement of 21 (4 Deck Officers (including Master), 4 Engineer officers, Electrician, 5 Deck ratings, 3 Engine Ratings, 2 catering ratings, 1 Deck and 1 Engine cadet). Ensure all the information as required by SOLAS is shown.

Q. 2 With respect to "ISPS Code" explain the following:

a) Ship Security assessment b) Ship Security Plan
c) Security Levels and Duties and responsibilities of every individual at various security levels.

Q. 3 a) List out the maintenance requirements for Lifting Appliances over a period of 5 years.
b) Prepare a maintenance schedule for Hydraulic Hatch Covers.

Q. 4 a) Briefly describe the guidelines for development of harmonised contingency plans for ship board emergencies as given in IMO Res. A.852 (20)?

b) Prepare an Emergency Checklist to deal with Fire In Pump Room.

Q. 5 a) When designing a ship, what are the basic principles to be followed to control the damage caused by fire?
b) With the help of a diagram briefly explain the working principle, maintenance requirements and operating procedure of sprinkler and water spraying systems in passenger ships?

Q. 6 a) As a chief officer you have to balance company and operational requirements with the personal demand of junior officer and crew onboard. In which way can you encourage and motivate your subordinates onboard?

b) Prepare a Standard Operating Procedure (SOP) for a critical ship board operation such as "Entry in to a Cargo Oil Tank for inspection" during ballast passage of an Oil Tanker.

Q. 7 a) What is the purpose of a work permit? Using a shipboard example explain the importance of a Hot Work Permit.
b) Describe the precautions to be taken before switching on the welding machine?

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND MANAGERIAL SKILLS

8

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q. 1 a) How will you organise and conduct the fire drill and abandon ship drill as per SOLAS?
b) Why do you train personnel on board? Explain the process you would follow to initiate the training of a new deck officer joining a Bulk Carrier in port before taking over his duties and why is it important to follow this process?

Q. 2 a) State the criteria for appointing a safety officer and explain in detail his responsibilities in ensuring safety on board.
b) Draw up a checklist for conducting routine safety inspection on board by Safety Officer

Q. 3 a) Describe in detail how you would scale and repaint the funnel?
b) What parts of the hull are most liable to corrosion, and how would you counteract this? How would you arrest localised pitting?

Q. 4 a) Describe the immediate actions to be taken to minimise the damage to the ship following a fire or explosion.
b) Prepare a contingency plan to deal with leakages and spills of dangerous cargoes inside cargo hold.

Q. 5 a) Briefly describe the SOLAS requirements relating to 'operational readiness and maintenance' of life saving and fire fighting appliances on board ships?
b) Describe the maintenance and inspection procedures for portable fire extinguishers, fire hydrants and fire hoses & nozzles?

Q. 6 a) As per ISM code, what is the role of DPA in organisation? Describe the responsibility of company to provide necessary resources and support to DPA and Master for effective implementation of Safety Management System as per ISM code?
b) Explain the basic principles of effective resource management.

Q. 7 a) Explain the term 'overriding operational conditions' in relation to rest hour requirements.
b) Prepare a maintenance and inspection schedule for ropes and wires in use on board.

Armed protection system

ICS

trip



GOVERNMENT OF INDIA

9

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

On
8/10/12
AM

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND
CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND
MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes: 1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q. 1 a) Describe the requirements of Survival Crafts on Oil Tankers, Chemical Tankers and gas carriers as per Chapter III of SOLAS.
b) Prepare a maintenance and inspection schedule for radio life saving appliances, satellite EPIRBs and SARTs?

Q. 2 a) Describe the dock labour regulation regarding operation, inspection and testing of lifting appliances on board the ship?
b) How is a 'Ship Security Plan' made; what are its contents and procedure for its revision?

Q. 3 a) What is a planned maintenance system? How does it serve to reduce cost and increase reliability of hull, machinery and equipment?
b) Describe a computer based PMS. What are the advantages and disadvantages of the computer based system?

Q. 4 a) Prepare an emergency checklist to deal with Fire in accommodation and cargo spaces.
b) Prepare an annual drill planner for effective conduct of all the statutory drills and exercises as per SOLAS and MARPOL?

Q. 5 a) Explain the different methods of fighting fire in different types of ship?
b) Make a sketch describing the functioning of the CO_2 fixed fire fighting system fitted for Engine Room of any type of ship. Also describe the maintenance requirements for such system?

Q. 6 a) What are the main thrust areas in which a chief officer should concentrate to make an efficient and effective work group as its leader?
b) Enumerate the methods to carry out situation and risk assessment?

Q. 7 'Emergency preparedness' is required as per ISM code. How will this be achieved on board in respect of the following?
a) Emergency Generator
b) Hyper-mist water sprays system.

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes:

1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q. 1 a) Describe the requirements of embarkation, launching and recovery arrangements for rescue boats as prescribed in chapter - III of SOLAS?
b) Prepare a list of Life Saving Appliances required as per chapter - III of SOLAS for a Gas tanker built in 2011 engaged in International Voyages.

Q. 2 a) Describe the purpose and functioning of a Safety committee meeting on board a merchant ship?
b) Describe the procedure for reporting and analysis of accidents, security breaches and hazardous occurrences on board a ship?

Q. 3 a) As a Chief Officer explain how you would assist in preparing and implementing a Planned Maintenance System for a new building ship, which is in the final stages of delivery.
b) Prepare a Maintenance & calibration schedule for fixed gas detection system and portable gas measuring instruments on board a ship.

Q. 4 a) A large container vessel sustains a hole in way of a fuel oil tank whilst berthing at an inadequately fendered wharf. Some quantity of fuel oil has spilled overside. List all actions you will take to minimize the pollution damage and to protect your interest. Give a list of parties to be informed and the documentation that will be necessary under the MARPOL convention.
b) Prepare an Annual Emergency drill schedule to cover all the contingencies including the SOLAS requirements.

Q. 5 a) Briefly state the maintenance and testing (including pressure testing) requirements of a CO₂ fixed gas fire extinguishing system for Engine room and describe its working.
b) How would you re-enter the engine room after the fire has been extinguished by means of CO₂?

Q. 6 a) Enumerate and explain the possible reasons for diminished performance level of crew on board and suggest methods for rectifying same.
b) "Task and work load management helps in better productivity on board in spite of time and resource constraints". Discuss the statement.

Q. 7 a) With reference to STCW-95 Code-B describe the roles and responsibilities of the following, in regard to on-board training:
i) Company ii) Master and iii) Prospective officer.
b) Carry out a Risk Assessment in a proper format for ship to ship lighterage operation of chemical tanker at sea.

GOVERNMENT OF INDIA

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - I)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND
CARE FOR PERSONS ON BOARD (Management Level)

PAPER: SHIP SAFETY, EMERGENCIES, MAINTENANCE AND
MANAGERIAL SKILLS

TIME: 3 Hours

PASS MARKS: 75

MAX. MARKS: 150

Notes: 1. Attempt any 6 questions out of 7.
2. All questions carry equal marks i.e. 25 marks each.
3. Where applicable sketches should be drawn to support the answer.

Q. 1 a) How will you ensure operational readiness of the Survival Crafts on board your ship as per the Regulation 20 of Chapter III of SOLAS?
b) Describe the maintenance and inspection procedures for life jackets, immersion suits, thermal protective aids and line throwing appliances?

Q. 2 a) Under what authorization dock labour inspector is permitted to carry out inspection? Give the details of the examinations and inspection carried out as per Dock Labour Act.
b) Describe the Best Management Practices (BMP) to be followed to deter Piracy off the Coast of Somalia, which has been prepared by various Shipping Industry Associations.

Q. 3 a) What precautions would you take before and while painting steel deck plates?
b) Fore peak water ballast tank is showing signs of corrosion. How would you treat it?

Q. 4 a) A coaster has collided with your anchored ship, a loaded crude oil tanker, on which you are serving as Chief Officer. Cargo is escaping from above the waterline. List the initial and subsequent actions that you will take.
b) Describe the requirements of Chapter II-1 of SOLAS relating to protective coatings of dedicated sea water ballast tanks and double-skin spaces?

Q. 5 a) Describe the fixed and portable fire-extinguishing arrangements provided in machinery spaces of Oil Tankers?
b) Describe the complete maintenance procedures i.e. weekly, monthly, quarterly, yearly and five yearly routines for fire hydrants, fire dampers, EEBD and SCBA?

Q. 6 a) Prepare a risk assessment for the task of over hauling of remotely operated hydraulic valve of cargo pipeline inside the tank, keeping in mind all the mandatory requirements.
b) Explain the signs of fatigue and causes of fatigue.

Q. 7 a) List out the essential Leadership and Managerial Skills required for a Chief Officer on board the ship.
b) How will you ensure that requirements regarding hours of work and rest periods as per ILO/MLC 2006/ STCW 2010 are being implemented effectively?
