ANNEX (A)

Deck Officer Class I - Certificate of Competency
(Master on ships of 3,000 gross tonnage or more)
Online Training Course
(STCW Convention 1978 as amended, Regulation II/2 & STCW Code Section A-II/2)

(A) System of Maritime Education & Training, Examination and Certification for Deck Officer Class I - Certificate of Competency Online Training Course

The Examination for certification of **Deck Officer Class I** (Master on ships of 3,000 gross tonnage or more) consists of Continuous Assessment and Oral Examination.

1. Every candidate for certification shall:

   (A) hold the Deck Officer Class II - Certificate of Competency;

   (B) have approved seagoing service of not less than 12 months as a Chief Mate on ships of 3,000 gross tonnage or more or not less than 24 months as an Officer in charge of a navigational watch on ships of 500 gross tonnage or more while holding Deck Officer Class II Certificate of Competency; and

   (C) have successfully completed the Continuous Assessment for the following Nautical Subjects during the period of the Approved Deck Officer Class I online training course (12- weeks) at the respective Approved Maritime Training Centres (MTCs)

      (1) Navigation;
      (2) Cargo Handling, Stability and Shipboard Operations; and
      (3) Maritime Legislative requirements.

2. The candidates, who have successfully completed the Approved Deck Officer Class I online training course, shall continue the Deck Officer Class I Oral Examination, which shall be conducted by the Department of Marine Administration (DMA).

3. The candidates, who have failed in the Oral Examination, shall have to attempt for the subsequent Oral Examination(s).

4. The DMA shall issue the Deck Officer Class I - Certificate of Competency to the candidates who have successfully completed the Oral Examination as well as holding the respective valid Certificates of Proficiency and Ship Manoeuvring and Handling Simulator Certificate which are required by the STCW Convention and STCW Code.

(B) Teaching System and Method of Demonstration for Deck Officer Class I - Certificate of Competency Online Training Course

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Navigation	132	**Oral Examination (DMA)**	1	90
Cargo Handling, Stability and Shipboard Operations (Cargo Handling & Stowage)	60			
Cargo Handling, Stability and Shipboard Operations (Ship Construction & Stability)	48			
Cargo Handling, Stability and Shipboard Operations (Ship Safety, Security, Damage Control & Management of Personnel)	60			
Maritime Legislative Requirements	72			
Total	**372**			

(C) Syllabus for Oral Examination of Deck Officer Class I - Certificate of Competency Online Training Course

1. NAVIGATION

1.1 Plan a voyage and conduct safe navigation

.1 Voyage planning and navigation for all conditions
.2 Routeing in accordance with the general provision on ship routeing
.3 Routeing in accordance with the general principle for ship routeing systems and with VTS procedures

1.2 Determine and allow for compass errors

.1 Principles of the magnetic compass
.2 Principles and errors of gyrocompasses
.3 Systems under the control of the master gyro and the operation and care of the main types of gyro-compasses
.4 Care and maintenance of the magnetic compass and binnacle
.5 Knowledge of how to find the magnetic bearing of a distant object and subsequent construction of a deviation card

1.3 Coordinate search and rescue operations

.1 The procedures contained in international aeronautical and maritime search and rescue manual

1.4 Establish watchkeeping arrangements and procedure

.1 International Regulations for preventing collisions at sea;
.2 Principles to be observed in keeping a navigational watch
.3 Bridge watchkeeping equipment and systems
.4 A thorough knowledge of the principles of navigational watch-keeping at sea, including under pilotage, at anchor and in port;
.5 Knowledge and application of the ICS Bridge Procedures Guide;
.6 A knowledge of principles of establishing a safe engineering watch at sea, anchor and in port.
.7 Limitations and risks involved with the use of ECDIS and RCDS to assist command decision-making; inter-relationship and optimum of all navigational information available

1.5 Forecast weather and oceanographic conditions

.1 Characteristics of various weather systems
.2 Understand and interpret a synoptic chart and use of weather routing services
.3 Danger messages and obligatory reporting requirements.
.4 Weather forecasting
.5 Ocean Current System

1.6 Respond to navigational emergencies

.1 Precautions When Beaching a Ship
.2 Action to be taken if grounding is imminent and after grounding
.3 Refloating a grounded ship with and without assistance
.4 Action to be taken if collision is imminent, after a collision or impairment of the watertight integrity of the hull by any cause
.5 Assessment of damage control
.6 Emergency steering
.7 Emergency towing arrangements and towing procedures
.8 Measures to be taken following exceptional circumstances including loss of rudder and/or propeller and impairment of watertight integrity of the ship through any cause
.9 Plan and co-ordinate SAR operations, including establishing and maintaining effective Communications
.10 Actions to be taken when disabled and in distress
.11 Abandoning ship and survival procedure
.12 SAR plans for passenger ships

1.7 Manoeuvring and handling a ship in all conditions

.1 Approaching pilot stations and embarking or disembarking pilots, with due regard to weather, tide, head reach and stopping distances
.2 Handling ship in rivers, estuaries and restricted water having regard to the effects of current, wind and restricted water on helm response
.3 Application of constant rate of turn techniques
.4 Manoeuvring in shallow water including the reduction in under-keel clearance caused by squat, rolling and pitching
.5 Berthing and unberthing under various conditions of wind, tide and current with and without tugs
.6 Ship and tug interaction
.7 Use of propulsion and manoeuvring systems including various types of rudder
.8 Choice of anchorage; anchoring with one or two anchors in limited anchorages and factors involved in determining the length of anchor cable to be used
.9 Procedures for anchoring in deep water and in shallow water
.10 Dragging anchor; clearing fouled anchors
.11 Dry-docking both with and without damage
.12 Management and handling ships in heavy weather, including assisting a ship or aircraft in distress; towing operations; means of keeping an unmanageable ship out of trough of the sea; lessening drift and use of oil
.13 Precautions in manoeuvring to launch rescue boats and survival craft in bad weather

.14 Ability to determine the manoeuvring and propulsion characteristics of common types of ships; with special reference to stopping distances and turning circles at various draughts and speeds

.15 Importance of navigating at reduced speed to avoid damage caused by own ship's bow and stern waves

.16 Practical measures to be taken when navigating in or near ice or in conditions of ice. accumulation on board

1.8 Operate remote controls of propulsion plant and engineering systems and services

.1 Operating principles of marine power plants

.2 Ships & auxiliary machiner

.3 General knowledge of marine engineering terms

2. Cargo handling and stowage

2.1 Plan and ensure safe loading, stowage, securing, care during voyage and unloading of cargoes

.1 knowledge and ability to apply relevant international regulations, codes and guidelines concerning the safe handling, stowage, securing and transport of cargoes.

2.2 Assess reported defects and damage to cargo spaces hatch covers and ballast tanks and appropriate action

.1 knowledge of the limitations on strength of the vital constructional parts of a standard bulk carrier and ability to interpret given figures for bending moments and shear forces;

.2 ability to explain how to avoid the detrimental effects on bulk carriers of corrosion, fatigue and inadequate cargo handling.

2.3 Carriage of dangerous goods

.1 International regulations, standards, codes and recommendations on the carriage of dangerous cargoes, including the International Maritime Dangerous Goods (IMDG) Code and the International Maritime Solid Bulk Cargoes (IMSBC) Code;

.2 Carriage of dangerous, hazardous and harmful cargoes; precautions during loading and unloading and care during the voyage.

3. Controlling the operation of ship and care for persons on board

3.1 Control trim, stability and stress

.1 Fundamental principles of ship construction, trim and stability

.2 Effect on trim and stability in the event of damage and stability

.3 Effect of heavy weather on the ship's structure

.4 Effect upon ship behavior of lists, stiff and tender stability conditions, large angles of heel and associated righting precautions: the effect upon different cargoes

.5 The importance of free surface effects and the identification and correction of an angle of loll

.6 Specific effects on stability and stress caused by ship type or nature of trade.

3.2 Monitor and control compliance with legislative requirement and measures to ensure safety of life at sea and the protection of the marine environment

.1 International maritime law embodied in international agreements and conventions

3.3 Maintain safety and security of crew and passengers and the operational condition of safety equipment

.1 Organization of fire drill and abandon ship drill

.2 Action to be taken to Protect and Safeguard all Persons on Board in Emergencies

.3 Actions to Limit Damage and Save the Ship following a Fire, Explosion, Collision or Grounding

.4 Manage to maintain safe engineering watch

.5 Master's responsibility with respect to stowaways and prevention of smuggling

.6 Precautions to safeguard against terrorism, piracy and armed robbery

.7 Methods of pest control, fumigation of holds and living spaces, safeguards in applying various methods

3.4 Develop emergency and control plans and handle emergency situations

.1 Preparation of contingency plans for response to emergencies; Contingency Plans for Response to Emergencies

.2 Ship construction, including damage control

.3 Methods and aids for fire prevention, detection and extinction

.4 Functions and Use of Life-saving Appliances

ANNEX (B)

Deck Officer Class II - Certificate of Competency (Chief Mate on ships of 3,000 gross tonnage or more) Online Training Course (STCW Convention 1978 as amended, Regulation II/2 & STCW Code Section A-II/2)

(A) System of Maritime Education & Training, Examination and Certification for Deck Officer Class II - Certificate of Competency Online Training Course

The Examination for certification of **Deck Officer Class II** (Chief Mate on ships of 3,000 gross tonnage or more) consists of Continuous Assessment, Written and Oral Examinations.

1. Every candidate for certification shall:
   - (A) hold the Deck Officer Class III - Certificate of Competency;
   - (B) have approved seagoing service of not less than 12 months as an Officer in charge of a navigational watch on ships of 500 gross tonnage or more;
   - (C) have successfully completed the Written Examination for the following Nautical Subjects during the period of the Approved Deck Officer Class I & II combined online training course (24-weeks) at the respective Approved Maritime Training Centres(MTCs):
     - (1) Magnetic and Gyro-compass;
     - (2) Engineering, Electricity and Electronic Navigational Aids; and
     - (3) Meteorology.

     (The Written Examination is administered, supervised and monitored by the Department of Marine Administration (DMA))
   - (D) have to attempt for the failed subject(s) only in the subsequent Written Examination(s) according to the respective semester if the candidates who have failed in any subject(s) of the Written Examination conducted by the Approved Maritime Training Centres; and
   - (E) have successfully completed the Continuous Assessment for the following Nautical Subjects during their education and training at the respective Approved Maritime Training Centres:
     - (1) Navigation;
     - (2) Cargo Handling, Stability and Shipboard Operations; and
     - (3) Maritime Legislative Requirements

2. The Continuous Assessment system shall be conducted during the education and training period at the Approved Maritime Training Centres (MTCs) in accordance with the Regulation I/6 of the STCW Convention.
3. The candidates, who have successfully completed the Continuous

Assessment, shall have to continue the Written Examination for the following Nautical Subjects conducted by the Board of Examination at pre-determined place or DMA:

(1) Navigation;

(2) Cargo Handling, Stability and Shipboard Operations; and

(3) Maritime Legislative Requirements.

4. The candidates who have failed in any subject of the Written Examination conducted by the Board of Examination, shall have to attempt for the failed subject(s) only in the subsequent Written Examination(s) and shall be successfully completed all subjects within 1year, which shall be counted at the beginning date of attempt of the Written Examination conducted by the Board of Examination, otherwise shall have to attempt for the overdue subjects.

5. The candidates who have successfully completed the Written Examination, shall have to continue the Deck Officer Class II Oral Examination, which shall be conducted by the DMA.

6. The candidates, who have failed in the Oral Examination shall have to attempt for the subsequent Oral Examination(s) and shall be successfully completed Oral Examination within 3 years, which shall be counted at the date of passing the Written Examination conducted by the Board of Examination, If the candidate joins the ship after passing the Written Examination before or during the Oral Examination, such period of maximum 1 year shall be exempted from the aforesaid period of 3 years.

7. The DMA shall issue Deck Officer Class II - Certificate of Competency to the candidates who have successfully completed the Oral Examination as well as holding the respective valid Certificates of Proficiency and Bridge Resource Management and Use of Leadership and Managerial Skills Certificate, which are require by the STCW Convention and STCW Code.

(B) Teaching System and Method of Demonstration for Deck Officer Class II- Certificate of Competency Online Training Course

Semester	Subjects	Teaching Hours			Demonstrating competence		
		Online	Practical	Total	Method	Hours	% Pass
I	Navigation (Position determination in sea condition)	60		60	**Written Examination (MTC)** 1.Magnetic and Gyro-compass 2.Engineering, Electricity and Electronic Navigational Aids 3.Meteorology	2 3 2	50 50 50
	Electronic Navigational Aids (ENA)	24		24			
	Meteorology	36		36			
	Cargo Handling & Stowage and Shipboard Operrations (Cargo Handling & Stowage)	72		72			
	Engineering Knowledge (EK) (Remote Control & Engineering System)	60		60			
	Cargo Handling & Shipboard Operations (Ship Construction & Stability)	24	24	48			
	Magnetic and Gyro-compass (Compass)	24		24			
	COLREG'72 & Oral Examination	36		36			
	1st Semester Total	**336**	**24**	**360**			
II	Navigation (Voyage planning, Routeing & Reporting)	12	24	36	**Written Examination (BoE)** 1. Navigation 2. Cargo Handling, Stability and Shipboard Operations 3. Maritime Legislative Requirements	3 3 3	70 60 50
	Cargo Handling, Stability and Shipboard Operations (ShipSafety, Security, Damage Control & Management of personnel)	60		60			
	Cargo Handling, Stability and Shipboard Operations (Cargo Handling &Stowage)	60		60			
	Cargo Handling, Stability and Shipboard Operations (Stability)	36	36	72			
	Maritime Legislative Requirements	48		48			
	COLREG'72 & Oral Examination	84		84			
	2nd Semester Total	**300**	**60**	**360**			
	Grand Total	**636**	**84**	**720**	**Oral Examination (DMA)**	1	90

(C) Syllabus for Written Examination of Deck Officer Class II - Certificate of Competency Online Training Course

FUNCTION I: Navigation at the management level

Competence No. 1.1: Plan a voyage and conduct navigation

1.1.1. Voyage planning and navigation for all conditions

.1 Logbooks

.2 Navigation Planning for all Conditions

1.1.2. Routing in accordance with the general principles on ship's routeing

.1 Routeing

The reasons for the planned route are supported by facts and statistical data obtained from relevant sources and publications

1.1.3. Reporting in accordance with the guidelines and criteria for hsip reporting systems and with vts procedures

.1 Ship reporting systems - All potential navigational hazards are accurately identified

Competence No. 1.2: Determine position and the accuracy of resultant position fix by any means

1.2.1 **POSITION DETERMINATION IN ALL CONDITIONS**

.1 Celestial navigation

.2 Terrestrial navigation, including the ability to use appropriate charts, notices to mariners and other publications to assess the accuracy of the resulting fix

.3 Modern electronic navigational aids with specific knowledge of their operating principles, limitations, s ources of error, detection of misrepresentation of information and methods of correction to obtain accurate position fixing

- Loran-C System
- Enhanced Loran (eLoran)
- Global Positioning System (GPS)
- Differential GPS (DGPS) including other satellitenavigation systems Differential GPS (DGPS)
- Global Navigation Satellite System (GLONASS)
- Galileo
- Automatic Identification System (AIS)
- Long Range Identification and Tracking (LRIT)
- Integrated Navigation system (INS) and Integrated Bridge system (IBS)
- Voyage Data Recorder (VDR) and Simplified Voyage Data Recorder (S- VDR)
- Bridge Navigational watch alarm system (BNWAS)

.4 Tides
.5 Loran-C System
.6 Satellite navigation system

Competence No. 1.3: Determine and allow for compass errors

1.3.1 The parts of the magnetic compass and their function
.1 The principle and errors of magnetic compasses
.2 Gyro-compass errors and corrections

1.3.2 The principles and errors of gyro compasses
.1 The principle and errors of gyro compasse
.2 Gyro-Compass Errors and Corrections

1.3.3 Systems under the control of the master gyro and operation of the main types of gyor-compasses
.1 Systems under the control of master gyro and the operation of the main types of gyro-compass in use at sea

Competence No.1.4: Coordinate search and rescue operations

1.4.1 The procedures contained in international aeronautical and maritime search and resue manual (IAMSAR)
.1 The plan for coordinating search and rescue operations is in accordance with international guidelines and standards
.2 Radio communications are established and correct communication procedures are followed at all stages of the search and rescue operations

Competence No. 1.5: Establish watch-keeping arrangement and procedures

1.5.1 The international regulations for preventing collisions at sea
.1 COLREG' 72 and Amendments

1.5.2 Principles to be observed in keeping a navigational watch
.1 Thorough knowledge of the content, application and intent of the Principles to be observed in keeping a Navigational Watch

1.5.3 Effective bridge teamwork procedures
.1 Bridge teamwork procedures
.2 Bridge team management
.3 Teamwork

Competence No. 1.6: Forecast weather and oceanographic conditions

1.6.1 Synoptic charts an weather forecasting
.1 The Planetary System of Wind and Pressure
.2 The Weather Associated with the Principal Air Mass Types
.3 Synoptic and Prognostic Charts and Forecasts From Any Source
.4 The Range of Information Available Through FaxTransmissions,

Internet andEmail

.5 The Main Types of Floating Ice, Their Origins andMovements

.6 The Guiding Principles Relating to the Safety of Navigation in Ice

.7 Conditions Leading to Ice Accretion on Ship's Superstructures, Dangers and the Remedies Available

1.6.2 Chracteristics of various weather systems

.1 The Formation, Structure and Weather Associated with The Principal Frontal Systems

.2 The Formation of, and Weather Associated with, Frontal and Non-Frontal Depressions

.3 The Formation and Weather Characteristics of Non-Frontal Weather Systems

.4 Tropical Revolving Storms (TRS)

1.6.3 Ocean current systems

.1 Surface Water Circulation of the Ocean and Principal Adjoining Seas

.2 Voyage Planning Principles with Respect to Weather Conditions and Wave Height

.3 The Formation of Sea Waves and Swell Waves

1.6.4 Calculation of tidal conditions

.1 Ability to calculate tidal conditions

1.6.5 Appropriate nautical publications on tides and currents

.1 Nautical publications and information which can be obtained via internet and e- mail on tides and currents

Competence No. 1.7: Respond to navigational emergencies

1.7.1 Precautions when beaching a ship

.1 Precautions When Beaching a Ship

1.7.2 Actions to be taken if grounding is immnent and after grounding

.1 Grounding

1.7.3 Refloating a grounded ship with and without assistance

.1 Refloating

1.7.4 Action to be taken if collision is imminent, after a collision or impairment of the watertight integrity of the hull by any cause

.1 Action to be taken if collision is imminent and following a collision or impairment of the watertight integrity of the hull by any cause

1.7.5 Assessment of damage control

.1 Assessment of damage control

1.7.6 Emergency steering

.1 Emergency steering

1.7.7 Emergnecy towing arrangements and towing procedures

.1 Emergency towing arrangements

Competence No. 1.8: Manoeuvre and handle a ship in all conditions

1.8.1. Manoeuvring and handling a ship in all conditions

.1 Approaching pilot stations and embarking or disembarking pilots, with due regard to Weather, tide, headreach and stopping distances

.2 Handling ship in rivers, estuaries and restricted waterhaving regard to theeffects of current, wind andrestricted water on helm response

.3 Application of Constant Rate of Turn Techniques

.4 Manoeuvring in Shallow Water including the reduction in under keel clearance caused by squat, rolling and pitching

.5 Interaction between passing ships and between own ship and near by banks (canal effect)

.6 Berthing and unberthing

.7 Ship and Tug Interaction

.8 Use of propulsion and manoeuvring systems including various types of rudder

.9 Choice of anchorage; Anchoring with one or twoanchors in limitedanchorages and factors involved indetermining the length of anchor cable to be used

.10 Procedures for anchoring in deep water and in shallow Water

.11 Dragging anchor; clearing fouled anchors

.12 Dry-Docking

.13 Management and Handling Ships in Heavy Weather, including assisting a ship or aircraft in distress; towing operations; means of keeping an unmanageable ship out of trough of the sea; lessening drift and use of oil

.14 Precautions in manoeuvring to launch Rescue Boatsand SurvivalCraft in bad weather

.15 Methods of taking on board survivors from rescueboats and survival craft

.16 Ability to determine the Manoeuvring and Propulsion Characteristics of commontypes of ships; with specialreference to stopping distances and turning circles atvarious draughts and speeds

.17 Importance of navigating at reduced speed to avoid Damage caused by Own Ship’s Bow and Stern Waves

.18 Navigating in or Near Ice; Practical measures to betaken when navigating in or near ice or in conditions of ice accumulation on board

.19 Use of, and Manoeuvring in and near, traffic separationschemes (TSS) and in vessel traffic service (VTS)

Competence No. 1.9: Operate remote controls of propulsion plant and engineering systems and services

1.9.1. Operating principles of marine power plants

1.9.2 Ships' auxiliary machinery

1.9.3 General knowledge of marine engineering terms

.1 Marine engineering terms and fuel consumption

1.9.4. Engine room watchkeeping

.1 Arrangements necessary for appropriate and effective engineering watches to be maintained for the purpose of safety under normal circumstances and ums operations.

.2 Arrangements necessary to ensure a safe engineering watch is maintained when carrying dangerous cargo

FUNCTION II: CARGO HANDLING AND STOWAGE AT THE MANAGEMENT LEVEL

Competence No.2.1: Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes

2.1.1. Aplication of international regulations codes and standards concerning the safe handling stowage, securing and transport of cargoes

.1 Plans and actions conform with international regulations

2.1.2. Effect on trim and stability of cargoes and cargo operations

.1 Draft, trim and stability

2.1.3. Stability and trim diagrams and stress calculating equipment

.1 Shear forces, bending moments and torsional moment

.2 Compliance with minimum freeboard requirements of the Loadline regulations

.3 Use of Automatic Data Based (ADB) Equipment

.4 Knowledge of loading cargoes and ballasting in order to keep hull stress within acceptable Limits

2.1.4. Stowage and secuing of cargoes on board ship cargo-handling gear amd seciomg amd ;asjomg equipment

.1 Timber deck cargoes

.2 Procedures for receiving, and delivering cargo

.3 Care of cargo during carriage

.4 Requirements applicable to cargo-handling gear

.5 Maintenance of cargo gear

.6 Maintenance of hatch covers

2.1.5. Loading and unloading operations, with special regard to the transport of cargoes identified in the code of safe practice for cargo stowage an securing

.1 Loading, stowage and discharge of heavy weights

.2 Care of cargo during carriage
.3 Methods and safeguards when fumigating holds

2.1.6. General knowledge of tankers and tankers operations
.1 Terms and definitions
.2 Contents and application of ISGOTT
.3 Oil tanker operations and related pollution-prevention regulation
.4 Chemical tankers
.5 Tank cleaning & control of pollution in chemical tankers
.6 Gas tankers
.7 Cargo operations in gas tankers

2.1.7. Knowledge of the operational and design limitations of bulk carriers
.1 Operational and design limitations of Bulk carriers
.2 SOLAS Chapter XII Additional Safety Measures for Bulk Carriers
.3 CSR Bulk

2.1.8. Loading, care and unloading of bulk cargoe
.1 Application of all available shipboard data related toloading, care and unloading of bulk cargoes
.2 Application of all available shipboard data related toloading, care and unloading of bulk cargoes

2.1.9. Safe cargo handling in accordance with the provisions of the relevant instruments
.1 Establish Procedures for safe cargo handling in accordance with the provisions of the relevant instruments such as IMDG Code, IMSBC Code, MARPOL 73/78, Annexes III and V

2.1.10. Effective communications and improving working relationship
.1 Basic principles for establishing effective communications and improving working relationship between ship and terminal personnel

Competence No. 2.2*:* Assess reported defects and damage to cargo spaces, hatch covers and ballast tanks and take Appropriate action.

2.2.1. Limitations on strength of the vital constructional parts of a standard bulkcarrier an interpret given figures forbending moments and sher forces
.1 Vital constructional parts of standard bulk carrier
.2 Bending moments shear forces.

2.2.2. Methods ot avoid the detrimental effects onbulk carriers of corrosion, fatigue and inadequate cargo handling
.1 Corrosion
.2 Fatigue and inadequate cargo handling

Competence No. 2.3: Carriage of dangerous cargoes

2.3.1. International regulations, standards, codes and recommendations on carriage of dangerous cargoes

.1 International regulations and codes

2.3.2. Carriage of dangerous, hazardous and hazardous and harmful cargoes; precautions during loading and unloading and careduring the voyage of dangerous, hazardous and harmful cargoes

.1 Dangerous goods in packages

.2 Solid bulk cargoes

.3 The IMO Grain Code

FUNCTION III: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD AT THE MANAGEMENT LEVEL

Competence No. 3.1: Control trim, stability and stress

3.1.1. Fundamental priciples of ship construction trim and stability

.1 Shipbuilding materials

.2 Welding

.3 Bulkheads

.4 Watertight and watertight doors

.5 Corrosion and its prevention

.6 Surveys and dry-docking

.7 Stability

3.1.2. Effection trim stability in the event of damage and flooding

.1 Effect on trim and stability of a ship in the event of damage to and consequent flooding of a compartment and countermeasures to be taken

.2 Theories affecting trim and stability

3.1.3. IMO recommendations concerning ship stability

.1 Responsibilities under the relevant requirements of the International Conventions and Codes

Competence No. 3.2: Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea and protection of the marine environment.

3.2.1. International maritime law embodied in international conventions

.1 Certificates and other documents required to be carried on board ships by international conventions

.2 Responsibilities under the relevant requirements of the International Convention on Load Lines

.3 Responsibilities under the relevant requirements of the

International Convention for the Safety of Life at Sea

.4 Responsibilities under the International Convention for the Prevention of Pollution from Ships

.5 Maritime declarations of health and the requirements of the International Health Regulations

.6 Responsibilities under international instruments affecting the safety of the ship, passengers, crew and cargo

.7 Methods and aids to prevent pollution of the marine environment by ships

.8 National legislation for implementing international agreements and conventions

(D) Syllabus for Oral Examination of Deck Officer Class I & II - Certificate of Competency

1. NAVIGATION

1.1 Plan and conduct safe navigation

.1 passage planning with respect to the use of navigational publications including navigational charts (including ECDIS and RCDS), sailing directions, light lists, tide tables, radio navigational warnings and ships‘ routeing information;

.2 the requirements of ship routeing and mandatory reporting systems and VTS procedures;

.3 IALA systems of buoyage;

.4 electronic navigational systems - limitations and sources of error, methods of correction;

.5 radar and ARPA - practical use of, modes of operation, limitations, sources of error and parallel indexing;

.6 specific knowledge of modern electronic navigational aids (GPS, DGPS, LORAN,GNSS, GLONASS. Galileo, AIS, LRIT, INS, IBS, VDR, SVDR, BNWAS), methods of correction and accuracy of position fixing methods;

.7 sources of meteorological information, ability to use and interpret information obtained from ship borne meteorological instruments, (the instruments supplied by the Meteorological Office will be taken as standard), knowledge of characteristics of various weather systems, reporting and recording systems.

1.2 Establishing safe navigational watch-keeping arrangements and procedures

.1 a thorough knowledge of the principles of navigational watch-keeping at sea, including under pilotage, and watch-keeping at anchor and in port;

.2 a thorough knowledge of the content, application and intent of the International Regulations for Preventing Collisions at Sea;

.3 conduct in and near traffic separation schemes and vessel traffic service (VTS) areas;

.4 understand the use of bridge equipment, including rate of turn indicators, course recorders, echo sounders and NAVTEX;

.5 knowledge of steering control systems, including automatic pilot, operational procedures and change-over from manual to automatic control and vice-versa, adjustment of controls for optimum performance;

.6 knowledge and application of the ICS Bridge Procedures Guide;

.7 a knowledge of principles of establishing a safe engineering watch at sea, anchor and in port.

1.2 Compasses

.1 use, care and limitations of the magnetic and gyro compasses, and associated equipment including automatic pilot.

1.3 Coordinate search and rescue operations

.1 A thorough knowledge of and ability to apply the procedures contained in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual.

1.4 Manoeuvre the ship

.1 conning the ship, effects of wind and current, effects of dead-weight, draft, trim, speed and under-keel clearance on turning circles and stopping distances; interaction and squat;

.2 berthing and unberthing at jetties, quays, mooring buoys and single-point moorings with/without tugs, with/without tidal stream, with/without wind;

.3 manoeuvres in restricted waters and open ocean waters;

.4 embarking and disembarking pilots;

.5 limitations of remote control operation of marine power plant and auxiliary machinery;

.6 anchors: different types of anchors and their advantages and disadvantages, preparation for anchoring, anchoring in a tideway and in confined water, operation of anchoring with a single anchor and use of a second anchor, dragging anchor, clearing a foul anchor and hawse, hanging off an anchor, breaking and slipping cables, getting under way;

.7 navigation in the vicinity of ice, ice reporting and steps to be taken in the event of ice accretion;

.8 manoeuvres to launch and recover rescue boats/survival craft.

2. Cargo handling and stowage

2.1 Loading and unloading of cargoes

.1 use, maintenance and testing of cargo handling equipment on board the vessel concerned;

.2 application of the contents of relevant codes and guidelines concerning the safe handling of cargoes on board the vessel concerned;

.3 knowledge of the effect on trim and stability, of cargoes and cargo operations on board the vessel concerned;

.4 use of stability and trim information, use of stress-calculating equipment, knowledge of loading cargoes and ballasting with respect to stability and hull stress.

2.2 Stowage, securing and care of cargoes

.1 application of the contents of relevant regulations, codes and guidelines concerning the safe stowage, securing and carriage of cargoes.

2.3 Assess reported defects and damage to cargo spaces hatch covers and ballast tanks and take appropriate action

.1 knowledge of the limitations on strength of the vital constructional parts of a standard bulk carrier and ability to interpret given figures for bending moments and shear forces;

.2 ability to explain how to avoid the detrimental effects on bulk carriers of corrosion, fatigue and inadequate cargo handling.

2.4 Carriage of dangerous goods

.1 International regulations, standards, codes and recommendations on the carriage of dangerous cargoes, including the lnternational Maritime Dangerous Goods (IMDG) Code and the International Maritime Solid Bulk Cargoes (IMSBC) Code;

.2 Carriage of dangerous, hazardous and harmful cargoes; precautions during loading and unloading and care during the voyage.

3. Response to emergencies

3.1 Response to navigational emergencies

.1 measures to be taken following: accidental damage including collision, grounding, flooding or major mechanical damage, including the possibility of beaching a ship; protection of the marine environment;

.2 knowledge of the effect on trim and stability, and subsequent actions in the event of damage to and consequent flooding of a compartment;

.3 preparations and precautions for towing and being towed;

.4 use of the International Aeronautical and Marine Search and Rescue (IAMSAR) Manual (Volume III), distress and emergency signals; Search and Rescue (SAR) worldwide;

.5 SAR and rescue plans for passenger ships;

.6 knowledge of the operation of emergency steering systems.

3.2 Response to other emergencies

.1 the organisation and direction of fire-fighting and abandon ship parties;

.2 methods of dealing with fire on board ship; prevention of fire at sea and in port;

.3 action to be taken to prevent the spread of fire;

.4 operation, maintenance and testing of fire fighting equipment, fire doors, dampers, screens and detection equipment;

.5 operation, maintenance and testing of watertight doors, sidescuttles and scuppers;

.6 launch, manage and ensure survival in survival craft, recover survival craft at sea and beach or land survival craft;

.7 operation, maintenance and testing of lifesaving appliances;

.8 knowledge of the contents of SOLAS training manuals;

.9 action to be taken when disabled and in distress;

.10 assisting a ship or aircraft in distress; rescuing the passengers and crew of a disabled ship or ditched aircraft;

.11 safety during helicopter operations.

3.3 Communications

.1 correct use of distress signals and awareness of penalties for misuse;

.2 emergency communications within the GMDSS regulations;

.3 sources of radio medical advice.

4. Shipboard operations

4.1 Compliance with pollution prevention requirements

.1 measures to be taken to prevent pollution in port and at sea;

.2 take appropriate action in response to pollution incidents on board and found at sea;

.3 knowledge of the contents of the SOPEP manual, Garbage Management Plan and use of provided anti-pollution equipment;

.4 practical knowledge of the requirements of MARPOL Conventions;

.5 knowledge of responsibilities, duties, obligations and liabilities in respect of pollution.

4.2 Seaworthiness of the ship

.1 preparations for sea prior to sailing with respect to watertight integrity and additional precautions to be taken before the onset of heavy weather;

.2 practical knowledge of the particular loadline items affecting seaworthiness;

.3 action in event of cargo shift, damage to hull or hatches, loss of cargo overboard or ingress of water into hull;

.4 preparation for dry-docking and undocking with and without cargo/damage; general procedure and precautions to be observed;

.5 use and care of deck machinery commonly fitted.

4.3 Crew management

.1 knowledge of personnel management, organisation and training including disciplinary procedures;

.2 application of hours of work and rest legislation.

4.4 Maintain safety of ships crew and passengers

.1 master‘s responsibility with respect to stowaways and prevention of smuggling;

.2 precautions to safeguard against terrorism, piracy and armed robbery;

.3 methods of pest control - fumigation of holds and living spaces; safeguards in applying various methods.

4.5 Legislative requirements

.1 knowledge of the application of Myanmar Merchant Shipping Act, including the Code of Safe Working Practices for Merchant Seamen and the main elements of Risk Assessment;

.2 Improvement and Prohibition Notices;

.3 safe manning, crew agreements, conditions of employment, official log book and the law relating to entries;

.4 understanding of load line marks, entries and reports in respect of freeboard, draft and allowances;

.5 routine inspection of living quarters and store rooms, and complaints procedure;

.6 requirements for records including Oil Record Book;

.7 requirements for drills and training;

.8 the requirements of the regulations concerning fire-fighting appliances;

.9 knowledge of the requirements of the regulations concerning life-saving appliances;

.10 knowledge of the international conventions relevant to the operation of ships including certificates and other documents required to be carried on board ships;

.11 requirements for statutory and classification surveys;

.12 reports required by the Marine Accident Investigation Branch (MAIB);

.13 putting into port with damage to ship and/or cargo, both from business and technical points of view - safeguarding of cargo;

.14 obligations with respect to pilotage;

.15 towage and salvage agreements;

.16 purpose of Flag State and Port State Control;

.17 purpose and application of the International Safety Management (ISM) Code and ISPS Code.

ANNEX(C)

Deck Officer Class III - Certificate of Competency (Officer in Charge of a Navigational Watch on ships of 500 gross tonnage or more) Online Training Course (STCW Convention 1978 as amended, Regulation II/1 & STCW Code Section A-II/1)

(A) System of Maritime Education & Training, Examination and Certification for Deck Officer Class III - Certificate of Competency Online Training Course

The Examination for certification of **Deck Officer Class III** (Officer in charge of a Navigational Watch on ships of 500 gross tonnage or more) consists of Continuous Assessment, Written Examinations, Signalling and Oral Examinations.

1. The candidates served as, Naval/Ex-Naval Officer having approved seagoing service of not less than 36 months including minimum seagoing service of 3 months on merchant ship for certification shall:

(A) have successfully completed the Written Examination for the following Nautical Subjects during the period of the approved Deck Officer Class III - Certificate of Competency Online Course (30) weeks at the respective Approved Maritime Training Centres:

(1) Principle of Navigation;
(2) Chart Work;
(3) Electricity, Magnetism & Gyro-compass; and
(4) Meteorology

(The Written Examination is administered, supervised and monitored by the Department of Marine Administration (DMA)).

(B) have to attempt for the failed subject(s) only in the subsequent Written Examination(s) according to the respective semester if the candidates who have failed in any subject of the Written Examination conducted by the Approved Maritime Training Centers;

(C) have successfully completed the Continuous Assessment for the following Nautical Subjects during their education and training period at the respective Approved Maritime Training Centres (MTCs):

(1) Practical Navigation; and
(2) General Ship Knowledge (GSK) ;

(D) have successfully completed the Written Examination for the following Nautical Subjects conducted by the Board of Examination at pre-determined place or at DMA:

(1) Practical Navigation; and
(2) General Ship Knowledge (GSK); and

(E) have to attempt for the failed subject/s only in the subsequent Written Examination(s) if the candidates who have failed in any subject of the Written Examination conducted by the Board of

Examination and shall be successfully completed all subjects within 1 year, which shall be counted at the beginning date of attempt of the Written Examination conducted by the Board of Examination, otherwise shall have to attempt for the overdue subjects.

OR

The candidates having passed the Basic Educational High School **(BEHS)** or General Certificate of Education Oridinary Level (GCE O level) shall:

(A) have approved seagoing service of not less than 36 months (have performed for Bridge Watchkeeping duty under the supervision of Master or qualified Officer not less than 6 months);

(B) have successfully completed the Written Examination for the following Supporting-knowledge Subjects and Nautical Subjects during the period of the approved Deck Officer Class III Certificate of Competency Online Course (40-weeks) at the respective Approved Maritime Training Centres:

(1) Supporting-knowledge Subjects are:
   (a) English;
   (b) Mathematics; and
   (c) Physical Science;

(2) Nautical Subjects are:
   (a) Principle of Navigation;
   (b) Chart Work;
   (c) Electricity, Magnetism & Gyro-compass; and
   (d) Meteorology;

(The Written Examination is administered, supervised and monitored by the DMA.)

(C) have to attempt for the failed ubject(s) only in the subsequent Written Examination(s) according to the respective semester if the candidate who have failed in any subject of the Written Examination conducted by the Approved Maritime Training Centers;

(D) have successfully completed the Continuous Assessment for the following Nautical Subjects during their education and training period at the respective Approved Maritime Training Centers:
   (1) Practical Navigation; and
   (2) General Ship Knowledge (GSK);

(E) have successfully completed Written Examination for the following Nautical Subjects conducted by the Board of Examination at pre-determined place or at DMA:
   (1) Practical Navigation; and
   (2) General Ship Knowledge (GSK); and

(F) have to attempt for the failed subject(s) only in the subsequent Written Examination(s) if the candidate who have failed in any

subject of the Written Examination conducted by the Board of Examination and be successfully completed all subjects within 1 year, which shall be counted at the beginning date of attempt of the Written Examination conducted by the Board of Examination, otherwise shall have to attempt for the overdue subjects.

2. The Written Examination shall be conducted during the education and training period at the Approved Maritime Training Centres in accordance with the Regulation I/6 of the STCW Convention.

3. The candidates, who have successfully completed the Written Examination, shall have to continue the Signalling Examinations and Deck Officer Class III Oral Examination, which shall be conducted by the DMA.

4. The candidates, who have failed in the Signalling Examination and/or Oral Examination, shall have to attempt for the subsequent Examination(s) and shall be successfully completed Signalling Examination and Oral Examination within 3 years, which shall be counted at the date of passing the Written Examination conducted by the Board of Examination. If the candidate joins the ship after passing the Written Examination before or during the Signalling Examinations and/or Oral Examination, such period of maximum 1 year shall be exempted from the aforesaid period of 3 years.

5. The candidates shall have successfully completed the following Training Courses prior to application of Certificate of Competency:
   (A) Radar Observer and Automatic Radar Plotting Aids (ARPA) Course;
   (B) Electronic Chart Display and Information System (ECDIS) Course;
   (C) General Operator's Certificate for GMDSS (GOC) Course; and
   (D) Bridge Resource Management and Application of Leadership and Teamworking Skills Course.

6. The DMA shall issue Deck Officer Class III - Certificate of Competency to the candidates who have successfully completed the Oral Examination as well as holding the respective valid Certificates of Proficiency which are required the STCW Convention and STCW Code.

(B) Teaching System and Method of Demonstration for Deck Officer Class III- Certificate of Competency Online Training Course

1. For Naval/Ex-Naval Officer

Semester	Subjects	Teaching Hours			Demonstrating competence		
		Online	Practical	Total	Method	Hours	% Pass
I	Meteorology	60		60	**Written Exam (MTC)** Meteorology Principle of Navigation ENA & Compass Chart Work	2 2 3 2	50 50 50 70
	Principle of Navigation	120		120			
	Practical Navigation	48		48			
	Chart Work	60		60			
	ENA & Compass	100		100			
	GSK (Seamanship, Cargo Handling & Stowage)	64		64			
	GSK (Stability,Construction & Shipboard Operation)	64		64			
	COLREG '72, Visual Signaling & Oral	72		72			
	Total	**588**		**588**			
II	Practical Navigation	42	42	84	**Written Exam (BoE)** Practical Navigation GSK	3 3	70 60
	Practical Navigation (Passage Planning)	24	36	60			
	GSK (Seamanship,Cargo Handling & Stowage)	72		72			
	GSK (Stability, Construction & Shipboard Operation)	12	60	72			
	COLREG'72, Visual Signaling & Oral	72		72	**Oral Exam (DMA)**	1	90
	Total	**222**	**138**	**360**			
	Grand	**810**	**138**	**948**			

(B) Teaching System and Method of Demonstration for Deck Officer Class III- Certificate of Competency Online Training Course

2. For BEHS and GCE "O" Level

Semester	Subjects	Teaching Hours			Demonstrating competence		
		Online	Practical	Total	Method	Hours	% Pass
I	English	96		96	**Written Examination (MTC)**		
	Physical Science	108		108	English	3	50
	Mathematics	96		96	Physical Science	3	50
	Meteorology	60		60	Mathematics	3	50
	Total	**360**		**360**	Meteorology	2	50
II	Principle of Navigation	120		120	Principle of Navigation	2	50
	Practical	48		48	Electricity, Magnetism & Gyro-compass	3	50
	Chart Work	60		60	Chart Work	2	70
	Electricity, Magnetism & Gyro-compass	100		100			
	GSK (Seamanship, Cargo Handling & Stowage)	64		64	**Written Examination (B.E)**		
	GSK (Stability,Construction & Shipboard Operation)	64		64	Practical Navigation	3	70
	COLREG '72, Visual Signalling & Oral	72		72	GSK	3	60
	Total	**528**		**528**			
III	Practical Navigation	42	42	84			
	Practical Navigation (Passage Planning)	24	36	60			
	GSK (Seamanship, Cargo Handling & Stowage)	72		72			
	GSK (Stability, Construction & Shipboard Operation)	12	60	72			
	COLREG'72, Visual Signalling & Oral	72		72			
	Total	**222**	**138**	**360**	**Signalling Visual & Signalling Oral Examinations (DMA)**	0.5	85
	Grand Total	**1110**	**138**	**1248**	**Oral Examination (DMA)**	1	90

(C) Syllabus for Written Examination of Deck Officer Class III - Certificate of Competency Online Training Course

FUNCTION I - Navigation at Operation Level

Competence No.1.1: Plan and conduct a passage and determine position

1.1.1. Celestial navigation
- .1 Solar system
- .2 Celestial sphere and equinoctial system of co-ordinates
- .3 Hour angle
- .4 Daily motion and horizontal system of co-ordinates
- .5 Sextant and altitude corrections
- .6 Amplitude
- .7 Time and equation of time
- .8 Nautical Almanac
- .9 Latitude by meridian altitude
- .10 Pole Star observations
- .11 Position fixing

1.1.2. Terrestrial and coastal navigation
- .1 Definitions — Earth
- .2 Charts
- .3 Datums
- .4 Distances
- .5 Position lines and positions
- .6 Sailings
- .7 Chart work exercises
- .8 Information from charts, lists of lights and other publications
- .9 Tides
- .10 Keeping a log

1.1.3. Electronic system of position fixing and navigation
- .1 Basic principles of hyperbolic navigation systems
- .2 Loran-C system
- .3 Satellite navigation systems
- .4 GPS

1.1.4. Echo-sounder and speed measurement
- .1 Echo-sounders
- .2 Speed logs

1.1.5. Compass-magnetic and gyro
- .1 The magnetism of the earth and the ship's deviation
- .2 The magnetic compass
- .3 The gyro-compass
- .4 Compass corrections

.5 Errors of the compasses and azimuths
.6 Fluxgate Compass

1.1.6. Steering and control systems
.1 The automatic pilot

1.1.7. Maritime Mateorology
.1 Shipborne meteorological instruments
.2 The atmosphere, its composition and physical properties
.3 Atmospheric pressure
.4 Wind
.5 Cloud and precipitation
.6 Visibility
.7 The wind and pressure systems over the oceans
.8 Structure of Depressions
.9 Anticyclones and Other Pressure Systems
.10 Weather services for shipping
.11 Recording and reporting weather observations
.12 Weather forecasting

Competence No. 1.2: Maintain a safe navigational watch

1.2.1. Watchkeeping
.1 Knowledge of the collision regulations
.1 Content, application and intent of COLREG '72 Lights, shapes and sound signals conform with the requirements contained in the International Regulations for Preventing Collisions at Sea, 1972, as amended, and are correctly recognized

1.2.2. Principles in keeping a navigational watch
.1 keeping a safe navigational watch
- The conduct, handover and relief of the watch conforms with accepted principles and procedures.
- A proper lookout is maintained at all times and in such a way as to conform to accepted principles and procedures
.2 Keeping a watch in port

1.2.3. The use of routeing
.1 Weather routeing
.2 Use of routeing in accordance with general provisions on ships' routeing

1.2.4. The use of information from navigatyional equipment for maintaining a safe navigational watch
.1 Use of Navigational Equipments

1.2.5. Knowledge of blind pilotage techniques

.1 Responsibility for the safety of navigation is clearly defined at all times, including periods when the master is on the bridge and while under pilotage

1.2.6. The use of reporting in accordance with the general principals for ship reporting systems and with vts procedures

.1 The frequency and extent of monitoring of traffic, the ship and the environment conform with accepted principles and procedures.

.2 A proper record is maintained of the movements and activities relating to the navigation of the ship.

1.2.7. Effective bridge teamwork procedures

.1 Bridge Teamwork Procedures

Competence No. 1.3: Respond to emergencies

1.3.1. Emergency procedures

.1 Precautinos for protection and safety of passengers and emergency situations

.1 Contingency plans for response to emergencies

.2 Precautions for protection and safety of passengers in emergency situations

1.3.2. Initial action following collision or grounding

.1 Precautions when beaching a vessel

.2 Actions on stranding/grounding

.3 Actions following a collision

.4. Means of limiting damage and salving ship following fire or explosion

.5 Procedures for abandoning ship

.6 Use of auxiliary steering gear and rigging jury steering arrangements

.7 Arrangements for towing and being towed

1.3.3. Resuing perons form the sea, assisting a ship in distress and port emergencies

.1 Rescue of persons from a vessel in distress

.2 Actions which can be taken emergencies arise in port

.3 Measures for assisting a vessel in distress

Competence No. 1.4: Respond to a distress signal at sea

1.4.1. Search and rescue

.1 IAMSAR

Competence No. 1.5: English language

Competence No. 1.6: Transmit and receive information by visual signaling

1.6.1. Transmit and receive signals by morse light
.1 Signaling by Morse Code
1.6.2. Use the international code signals
.2 International Code of Signals

Competence No. 1.7: Manoeuvre the ship

1.7.1. Ship manoeuvring and handling
.1 The Effects of Various Deadweights, Draughts, Trim, Speed and Under-Keel Clearance on Turning Circles and topping Distances
.2 Effect of wind and current on ship handling
.3 Manoeuvres for rescue of person overboard
.4 Squat, shallow water and similar effects
.5 Proper procedures for anchoring and mooring

FUNCTION II : Cargo Handling and Stowage at the Operational Level

Competence No. 2.1:Monitor the loading, stowage, securing and unloading of cargoes and their care during the voyage

2.1.1. The effect of cargo, including heavy lifts on the sea-worhiness and stability of the ship
.1 Draught, trim and stability
.2 Securing cargoes
.3 Deck cargo
.4 Container cargo
.5 Bulk cargo
.6 Bulk grain cargo

2.1.2. Safe handling, stowage and securing of cargoes
.1 Cargo care
.2 Dangerous, hazardous and harmful cargoes
.3 Cargo handling equipment and safety
.4 Oil tanker piping and pumping arrangements
.5 Precautions before entering enclosed or contaminated spaces
.6 Cargo calculations and cargo plans

Competence No. 2.2: Inspect and report defects and damage to cargo spaces, hatch covers and ballast tanks

2.2.1. Knowledge ability to explain where to look for damage and defects most commonly encountered due to
.1 loading and unloading operations
.2 corrosion
.3 severe weather conditions

2.2.2. Ability to state which parts of the ship shall be inspected each time in order to cover all parts within a given period of time

.1 The inspections are carried out in accordance with laid-down procedures.

.2 Defects and damage are detected and properly reported.

.3 Where no defects or damage are detected, the evidence from testing and examination clearly indicates adequate competence in adhering to procedures and ability to distinguish between normal and defective or damaged parts of the ship.

2.2.3. Identify those elements of the ship structure which are critical to the safety of the ship

2.2.4. State the causes of corrosion in cargo spaces and ballast tanks and how corrosion can be identified and prevented.

2.2.5. Procedures on how the inspections shall be carried out.

2.2.6. How to ensure reliable detection of defects and damages.

2.2.7. The purpose of the “enhanced survey programme”

FUNCTION III : Controlling the Operation of the Ship and Care for Persons On Board at the Operational Level

Competence No. 3.1: Ensure compliance with pollution prevention requirements

3.1.1. The precautions to be taken to prevent pollution of the marine enviorment

.1 MARPOL 73/78

3.1.2. Anti-pollution producers and associated equipment

.1 Regulation 26- Annex 1 MARPOL 73/78

.2 Anti-Pollution Equipment

Competence No. 3.2: Maintain the sea-worthiness of the ship

3.2.1. Ship stability

.1 Displacement

.2 Buoyancy , Fresh water allowance and Statical stability

.3 Initial stability

.4 Angle of loll

.5 Curves of statical stability

.6 Movement of centre of gravity

.7 List and Its Correction

.8 Effect of slack tanks

.9 Trim

.10 Loss of Intact uoyancy

3.2.2. Ship construction

.1 Ship dimensions and form

.2 Ship Stresses

.3 Hull structure

.4 Bow and stem

.5 Fittings

.6 Rudders and propellers

.7 Load lines and draught marks

Competence No. 3.3: Monitor compliance with legislative requirements

3.3.1 Basic working knowledge of the relevant IMO conventions concerning safety of life at sea and protection of the marine environment

.1 Introduction to Marine Law

.2 Law of the sea

- Conventions on the Law of the Sea
- Territorial Sea and the Contiguous Zone
- International Straits
- Exclusive Economic Zone and Continental Shelf
- High Seas

.3 Safety

- International Convention for the Safety of Life at Sea, 1974 as amended (SOLAS) GeneralProvisions
- SOLAS - Subdivision and Stability, Machinery and Electrical Installation
- SOLAS - Fire Protection, Fire Detection and Fire Extinction
- SOLAS - Life-Saving Appliances and Arrangements]
- SOLAS - Radiotelegraphy and Radiotelephony
- SOLAS-Radio communications (amended Chap. IV)
- SOLAS-Carriage of grain
- SOLAS-Carriage of dangerous goods
- ES Programme
- Code of Safety Working Practices for Merchant Seaman
- ISM code
- ISPS Code
- STCW, 2010
- ITU Radio regulations
- STP ships Agreement, 1971
- SPACE STP, 1973
- PAL, 1974 and Tonnage 1969
- MARPOL 73/78
- Marine environmental awareness
- International Convention on Tonnage Measurement of Ships, 1969
- BWM Convention
- AFS Convention

3.3.2 Sustainable development

- concept of sustainability
- sustainable development in shipping

3.3.3 Understanding marine ecosystem

- complexity and diversity of the marine environment
- Recognition of importance of the marine environment
- individual role in the prevention of pollution - sense of responsibility
- effects of shipping on the marine environment
- recognition of the impacts of human activities on this environment
- impact of shipping on the environment

3.3.4 Global regulatory framework

- role of regulations, procedures and technical installations to protect the environment
- upcoming new regulations and reasons
    - BWM, Recycling Conventions, etc.
    - GHGs and Kyoto Protocol
    - Air Pollution
    - ECA & SECA
        - sustainability issues of the day

3.3.5 Technical panorama

- technical panorama of energy efficient shipping
- IMO initiatives for GHG emissions control from ships
    - EEDI, EEOI & SEEMP
- willingness to use solutions that lessen the impact - challenge and inspiration
- marine environmental awareness, personal responsibility
- role of human element to prevent pollution, proactive measures

(D) Syllabus for Oral Examination of Deck Officer Class III - Certificate of Competency Online Training Course

1. Navigation

1.1 Plan and conduct a passage including position determination

.1 passage planning with respect to the use of navigational publications including navigational charts (including ECDIS and RCDS), sailing directions, light lists, tide tables, radio navigational warnings and ships‘ routeing information;

.2 the requirements of ship routeing and mandatory reporting systems;

.3 IALA systems of buoyage;

.4 electronic navigational systems – limitations and sources of error, methods of correction;

.5 limitations of electronic chart systems including ECDIS and RCDS navigational chart systems;

.6 radar and ARPA - practical use of, modes of operation, limitations, sources of error and parallel indexing;

.7 to use an azimuth mirror for taking bearings, including the determination of compass errors;

.8 to use a sextant, identify and correct errors;

.9 sources of meteorological information, ability to use and interpret information obtained from ship borne meteorological instruments (the instruments supplied by the Meteorological Office will be taken as standard), knowledge of characteristics of various weather systems, reporting and recording systems.

1.2 Maintain a safe navigational watch

.1 a thorough knowledge of the principles of navigational watch-keeping at sea, including under pilotage, and watch-keeping at anchor and in port;

.2 a thorough knowledge of the content, application and intent of the International Regulations for Preventing Collisions at Sea;

.3 knowledge of bridge resource management principles;

.4 radar and ARPA - practical use of, modes of operation, limitations, sources of error, plotting and parallel indexing;

.5 understand the use of bridge equipment, including rate of turn indicators, course recorders, echo sounders and NAVTEX;

.6 knowledge of steering control systems, including automatic pilot, operational procedures and change-over from manual to automatic control and vice-versa - adjustment of controls for optimum performance;

.7 knowledge and application of the ICS Bridge Procedures Guide.

1.3 Compasses

.1 use, care and limitations of the magnetic and gyro compasses, and associated equipment, including automatic pilot.

1.4 Manoeuvre the Ship

.1 preparation for getting under way, duties prior to proceeding to sea, making harbour, entering a dock, berthing alongside quays, jetties, or other ships, and securing to buoys;
.2 use and care of mooring lines and associated equipment;
.3 helm orders, conning the ship, effects of propellers on the steering of a ship, effects of wind and current, stopping, going astern, turning short round, interaction and squat, manoeuvring in the vicinity of pilot vessels and other craft, embarking and disembarking a pilot;
.4 action in event of failure of:- bridge control, telegraph or steering; emergency steering arrangements;
.5 manoeuvres and procedures for the rescue of person overboard;
.6 proper procedures for anchoring.

2. Cargo handling and stowage

2.1 Loading and Unloading of Cargoes

.1 use and care of synthetic fibre and wire ropes, ascertaining of safe-working loads;
.2 knowledge of safe handling, stowage and securing of cargoes, including dangerous, hazardous and harmful cargoes, and their effect on the safety of life and of the ship;
.3 knowledge and ability to explain where to look for damage and defects most commonly encountered due to:
.4 loading and unloading operations;
.5 corrosion;
.6 severe weather corrosion.
.7 use of the hydrometer.

3. Response to emergencies

3.1 Response to navigational emergencies

.1 initial action following: man overboard, collision, grounding, flooding or major mechanical damage, and receipt of a distress message; initial damage assessment and control, protection of the marine environment;
.2 precautions for the protection and safety of passengers in emergency situations;
.3 use of the International Aeronautical and Marine Search and Rescue (IAMSAR) Manual (Volume III), distress and emergency signals; Search And Rescue worldwide.

3.2 Response to other emergencies

.1 understanding of the organisational procedures for emergency parties and drills;

.2 knowledge of fire prevention, use and care of fire-fighting appliances, the shut-down and isolation of plant and equipment, escape and breathing apparatus, fire and safety plans;

.3 knowledge of classes and chemistry of fire;

.4 understanding of action to be taken in the event of fire including fires involving oil;

.5 use and care of life-saving appliances and equipment including hand held radios, EPIRBs, SARTs, immersion suits and thermal protective aids, and rocket line throwing apparatus;

.6 meaning of markings on survival craft and associated equipment;

.7 correct use of distress signals and awareness of penalties for misuse;

.8 launch and manage survival craft, recover rescue boats at sea;

.9 precautions for the protection and safety of passengers in emergencies;

.10 knowledge of the contents of SOLAS training manuals and maintenance logs;

.11 basic principles of survival;

.12 appreciation of action to be taken when emergencies arise in port;

.13 sources of medical information available.

3.3 Communications

.1 use of distress and emergency signals, International Code of Signals and the IMO Standard Marine Communication Phrases;

.2 emergency communications within the GMDSS regulations.

4. Shipboard Operations

4.1 Pollution prevention requirements

.1 precautions to be taken to prevent pollution of the marine environment as required by the MARPOL conventions, including Restricted Areas and the disposal of pollutants;

.2 basic understanding of the SOPEP manual, Garbage Management Plan and anti- pollution equipment.

4.2 Seaworthiness of the ship

.1 understand fundamentals of watertight integrity, and the closing of all openings including hatch covers, access hatches and watertight doors;

.2 preparations for heavy weather.

4.3 Legislative requirements

.1 contents and use of Merchant Shipping Notices, Annual Summary and Admiralty Notices to Mariners;

.2 knowledge and application of current Merchant Shipping Act, and the Code of Safe Working Practices for Merchant Seamen;

.3 basic knowledge of relevant IMO conventions concerning safety of life at sea, and protection of the marine environment;

.4 purpose and application of the International Safety Management (ISM) Code and ISPS Code;

.5 purpose of Flag State and Port State Control;

.6 application of leadership and team-working skills.

ANNEX (D)

Ratings forming part of a Navigational Watch - Certificate of Proficiency Online Training Course (STCW Convention 1978 as amended, Regulation II/4 & STCW Code Section A-II/4)

(A) System of Maritime Education & Training, Examination and Certification for Ratings Forming Part of a Navigational watch - Certificate of Proficiency (STCW Regulation II/4)

The Certificate of Proficiency for Rating Forming Part of a Navigational Watch online training course for every rating forming part of a navigational watch on a seagoing ship of 500 gross tonnage or more who is designated to perform the navigation function at the support level consists of practical training, theory lectures and written examination in the Approval Maritime Training Centre.

1. Every candidate for certification shall:
   - (A) have approved seagoing service including not less than six months of training and experience after holding of Certificate of Proficiency in Safety Familiarization and Basic Training.
   - (B) have completed the online training courses conducted in approved training centres with continuous assessment system and followed up by written examination to meet the standard of competence specified in section A-II/4 of the STCW Code

2. The online training and assessment shall be administered, supervised and monitored by the Department of Marine Administration.

3. The Department of Marine Administration will issue the Certificate of Proficiency in Ratings Forming Part of a Navigational Watch to the candidate who has successfully completed the approved omline training course.

(B) Teaching System and Method of Demonstration for Proficiency in Ratings Forming Part of a Navigational Watch

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Steer the ship and also comply with helm orders in the English Language	2.0			
Keep a proper look-out by sight and hearing	1.0			
Contribute to monitoring and controlling a safe watch	7.0			
Operate emergency equipment and apply emergency procedures	8.0			
Total	**18.0**			

This course shall be supplemented by the following practical exercise.

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Simulator Exercises	24	Practical Assessment and Written Exam (MTC)	1	70
Total	**24**			

(C) Syllabus of Maritime Education & Training, Examination and Certification for Ratings Forming Part of a Navigational Watch – Certificate of Proficiency

Specification of minimum standard of competence for rating forming paert of a navigational watch

Function - Navigation at the support level

Competence No.1 - Steer The ship and also comply with helm orders in the english language

1.1. Use of magnetic and gyro-compasses
1.2. Helm orders
1.3. Change-over from automatic pilot to hand steering and vice versa

Competence No.2 - Keep a proper look – out by sight and hearing

2.1. Responsibilities of a look-out, including reporting the approximate bearing of a sound signal, light or other object in degrees or points

Competence No.3 - Contribute to monitoring and controling a safe watch

3.1. Shipboard terms and definitions
3.2. Use of appropriate internal communication and alarm systems
3.3. Ability to understand orders and to communicate with the officer of the watch on matters relevant to watchkeeping duties
3.4. Procedures for the relief, maintenance and handover of a watch
3.5. Information required to maintain a safe watch
3.6. Basic environmental protection procedures

Competence No.4 - operste emergency equipment and apply energency procedures

4.1. Knowledge of emergency duties and alarm signals
4.2. Knowledge of pyrotechnic distress signals, satellite EPIRBs and SARTs
4.3. Avoidance of false distress alerts and action to be taken in event of accidental activation

ANNEX (E)

Ratings as Able Seafarer Deck - Certificate of Proficiency Online Training Course (STCW Convention 1978 as amended, Regulation II/5 & STCW Code Section A-II/5)

(A) System of Maritime Education & Training, Examination and Certification for Ratings as Able Seafarer Deck – Certificate of Proficiency (STCW Regulation II/5)

The Certificate of Proficiency for Rating as Able Seafarer Deck training course for seafarers, serving on a seagoing ship of 500 gross tonnage or more, who are designated to perform the function at the support level, as specified in section A-II/5, consists of practical training, theory lectures and written examination in the Approval Maritime Training Centres.

1. Every candidate for certification shall:

   (A) have approved seagoing service including not less than 12 months after holding of Ratings forming part of a navigational watch Certificate of Proficiency.

   (B) have completed the online training courses conducted in approved training centres with continuous assessment system and followed up by written examination to meet the standard of competence specified in section A-II/5 of the STCW Code.

2. The online training and assessment shall be administered, supervised and monitored by the Department of Marine Administration.

3. The Department of Marine Administration will issue the Certificate of Proficiency in Ratings as Able Seafarer Deck to the candidate who has successfully completed the approved online training course.

(B) Teaching System and Method of Demonstration for Proficiency in Ratings as Able Seafarer Deck

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Contribute to a safe navigational watch	22			
Contribute to berthing, anchoring and other mooring operations	15			
Contribute to the handling of cargo and stores	64			
Contribute to the safe operation of deck equipment and machinery	13.5			
Apply occupational health and safety precautions	15			
Apply precautions and contribute to the prevention of pollution of the marine environment	12			
Contribute to shipboard maintenance and repair	28.5			
Total	**170.0**			

This course shall be supplemented by the following practical exercise.

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Contribute to a safe navigational watch	11	Practical Assessment and Written Exam(MTC)	2	70
Contribute to berthing, anchoring and other mooring operations	10			
Contribute to the handling of cargo and stores	4.0			
Contribute to the safe operation of deck equipment and machinery	6.5			
Apply occupational health and safety precautions	7.0			
Apply precautions and contribute to the prevention of pollution of the marine environment	0.5			
Contribute to shipboard maintenance and repair	41.5			
Total	**80.5**			

(C) Syllabus of Maritime Education & Training, Examination and Certification for Ratings as Able Seafarer Deck – Certificate of Proficiency

Specification of minimum standard of competemce of ratings as able seafarer deck

Function – Navigation at the support level

Competence No.1- Contribute to a safe navigational watch

1.1. Ability to understand orders and to communicate with the officer of the watch on matters relevant to watchkeeping duties
1.2. Procedures for the relief maintenance and handover of a watch
1.3. Information required to maintain a safe watch

Competence No.2-Contribute ta a safe navigational watch

2.1. Working knowledge of the mooring system and related procedures, including:
  2.1.1. the function of mooring and tug lines and how each line functions as part of an overall system
  2.1.2. the capacities, safe working loads and breaking strengths of mooring equipment, including mooring wires, synthetic and fibre lines, winches, anchor windlasses, capstans, bitts, chocks and bollards
  2.1.3. the procedures and order of events for making fast and letting go mooring and tug lines and wires, including towing lines
  2.1.4. the procedures and order of events for the use of anchors in various operations
2.2. Working knowledge of the procedures and order of events associated with mooring to a buoy or buoys

Function – Cargo handling and stowage at the support level

Competence No.1- Contribute to the handling of cargo and stores

1.1. Knowledge of procedures for safe handling, stowage and securing of cargoes and stores, including dangerous, hazardous and harmful substances and liquids
1.2. Basic knowledge of and precautions to observe in connection with particular types of cargo and identification of IMDG labelling

Function – Controlling the operation of the ship and care for persons on boat at the support level

Competence No.1- Contribute to berthing, anchoring and other mooring opearations

1.1. Knowledge of deck equipment, including:
  1.1.1. function and uses of valves and pumps, hoists, cranes , booms and related equipment
  1.1.2. function and uses of winches, windlasses, capstans and related equipment hatches, watertight doors, ports and related equipment
  1.1.3. fibre and wire ropes, cables and chains, including their construction, use, markings, maintenance and proper stowage

1.1.4. ability to use and understand basic signals for the operation of equipment, including winches, windlasses, cranes and hoists

1.1.5. ability to operate anchoring equipment under various conditions, such as anchoring, weighing anchor, securing for sea, and in emergencies

1.2. Knowledge of the following procedures and ability to:

1.2.1. rig and unrig bosun's chairs and staging

1.2.2. rig and unrig pilot ladders, hoists, rat-guards and gangways

1.2.3. use marlin spike seamanship skills, including the proper use of knots, splices and stoppers

1.3. Use and handling of deck and cargo-handling gear equipment:

1.3.1. access arrangements, hatches and hatch covers, ramps, side/bow/stern doors or elevators

1.3.2. pipeline system - bilge and ballast suctions and wells

1.3.3. cranes, derricks, winches

1.4. Knowledge of hoisting and dipping flags and the main single-flag signals (A,B,G,H,O,P,Q)

Competence No.2- Apply occupational health and safety precautions

2.1. Working knowledge of safe working practices and personal shipboard safety including:

2.1.1. Working aloft

2.1.2. Working over the side

2.1.3. Working in enclosed spaces

2.1.4. Permit to work systems

2.1.5. Line handling

2.1.6. Lifting techniques and methods of preventing back injury

2.1.7. Electrical safety

2.1.8. Mechanical safety

2.1.9. Chemical and biohazard safety

2.1.10. Personal safety equipment

Competence No.3-Apple precautions and contribute to the prevention of pollution of the marine environment

3.1. Knowledge of the precautions to be taken to prevent pollution of the marine environment

3.2. Knowledge of the use and operation of anti-pollution equipment

3.3. Knowledge of the approved methods for disposal of marine pollutants

Competence No.4- Operate survival craft and rescue boats

4.1. Knowledge of the operation of survival craft and rescue boats, their launching appliances and arrangements, and their equipment

4.2. Knowledge of survival at sea techniques

Competence No.5- Contribute to shipboard maintencace and repair

5.1. Ability to use painting, lubrication and cleaning materials and equipment
5.2. Ability to understand and execute routine maintenance and repair procedures
5.3. Knowledge of surface preparation techniques
5.4. Understanding manufacturer’s safety guidelines and shipboard instructions
5.5. Knowledge of safe disposal of waste materials
5.6. Knowledge of the application, maintenance and use of hand and power tools.

ANNEX (F)

Crowed Management – Documentary Evidence
Online Training Course
(STCW Convention 1978 as amended, Regulation V/2 & STCW Code Section A-V/2)

(A) System of Maritime Education & Training, Examination and Certification for Crowd Management Course – Documentary Evidence (STCW Regulation V/2)

Crowd Management online Course for Masters, officers, ratings and other personnel serving on board passenger ships shall be to provide standard requirements as per A-V/2 paragraph 1 of STCW Code. Course consists of practical training, theory lectures, evaluation and assessment in the Approval Maritime Training centre.

1. Every candidate for certification shall:
   (A) be not less than 18 years of age,
   (B) have completed the online training course conducted in approved training centres with continuous assessment system and followed up by evaluation and assessment to meet the standard of competence specified in section A-V/2 paragraphs 1 and 2 of the STCW Code.

2. The online training and assessment shall be administered, supervised and monitored by the Department of Marine Administration.

3. The Certificate of Proficiency will be issued to the candidate who has successfully completed the approved Online Revalidation course.

(B) Teaching System and Method of Demonstration for Crowd Management Course

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Course Introduction	0.5	Evaluation & Assessment	N/A	N/A
Contributing to the implementation of shipboard emergency plans and procedures to muster and evacuate passengers	2.0			
Assisting passengers en route to muster and embarkation stations	0.5			
Total	**3.0**			

This course shall be supplemented by the following practical exercise.

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Contributing to the implementation of shipboard emergency plans and procedures to muster and evacuate passengers	1.5			
Assisting passengers en route to muster and embarkation stations	5.5			
Total	**7.0**			

(C) Syllabus of Maritime Education & Training, Examination and Certification for Crowd Management Course – Documentary Evidence

Specification of minimum standard of competence for certificatio of crow managenent course

1. Course Introduction
   - 1.1 Accidents on board passenger ships
   - 1.2 Overview of STCW requirements under STCW regulation V/2 and section A-V/2 of the STCW Code

2. Contributing to the implementation of shipboard emergency plans and procedures to muster and evacuate passengers
   - 2.1 Shipboard emergency plans, instructions and procedures related to the management and evacuation of passengers
   - 2.2 Crew muster lists and emergency instructions
   - 2.3 Crowd management techniques and relevant equipment used to assist passengers in an emergency situation

3. Assisting passengers en route to muster and embarkation stations
   - 3.1 Giving clear reassuring orders
   - 3.2 Managing passengers in corridors, staircases and passageways
   - 3.3 Maintaining escape routes clear of obstructions
   - 3.4 Methods available for evacuation of ersons with disability and persons needing special assistance
   - 3.5 Methods of searching passengers accommodation and public spaces
   - 3.6 Effective mustering procedures
   - 3.7 Ability to disembark passengers, with special attention to disabled persons and persons needing assistance

ANNEX (G)

Safety Familiarization and Basic Training - Certificate of Proficiency Online Course (STCW Convention 1978 as amended, Regulation VI/1 & STCW Code Section A-VI/I)

(A) System of Maritime Education & Training, Examination and Certification for Certificate of Proficiency in Safety Familiarization and Basic Training - Online Course

The Certificate of Proficiency in Safety Familiarization and Basic Training course for seafarers on board ship on the business of that ship as part of the ship's complement with designated safety duties in the operation of the ship, consists of practical training, theory lectures, written examinations in the Approval Maritime Training Centre.

1. Every candidate for certification shall have completed the training course conducted in approved training centres with continuous assessment system and followed up by written examinations to meet the standards of competence specified in section A-VI/1, paragraph 1 and 2 of the STCW Code.

2. The online training and assessment shall be administered, supervised and monitored by the Department of Marine Administration.

3. The Department of Marine Administration will issue the Certificate of Proficiency in Safety Familiarization and Basic Training to the candidate who has successfully completed the approved online training course.

(B) Teaching System and Method of Demonstration for Proficiency in Safety Familiarization and Basic Training Subjects

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Personal Survival Technique - lecture, video training, and discussion online practice	6.0	**Evaluation & Continuous Assessment (MTC)**	2.25	50
Fire Prevention and fire-fighting lecture, video training and discussion - online practice	11.5			
Elementary First Aid and CPR - lecture & discussion online practice	15.0			
Personal Safety and SocialResponsibilities - lecture and discussion	15.0			
Total	**47.5**			

This course shall be supplemented by the following practical exercise.

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Personal Survival Technique - Person life saving appliance - Survival craft and rescue boat - Ship abandonment and survival - Emergency radio equipment - Survival action	9.0	**Practical Assessment (MTC)**	0.75	50
Fire Prevention and fire-fighting - Use of fire fighting equipmets – - Use of BA for fire fighting	3.5			
Total	**12.5**			

(B) Syllabus of Maritime Education & Training, Examination and Certification for Certificate of Proficiency in Safety Familiarization and Basic Training - Online Course

Specification of minimum standard of competence in personment survival techniques

Competence 1: Survive at sea in the event of ship abandonment

1.1. Types of emergency situations which may occur, such as collision, fire, foundering
1.2. Types of life-saving appliances normally carried on ships
1.3. Equipment in survival craft
1.4. Location of personal life-saving appliances
1.5. Principles concerning survival, including:
  1.5.1. value of training and drills
  1.5.2. personal protective clothing and equipment
  1.5.3. need to be ready for any emergency
  1.5.4. actions to be taken when called to survival craft stations
  1.5.5. actions to be taken when required to abandon ship
  1.5.6. actions to be taken when in the water
  1.5.7. actions to be taken when aboard a survival craft
  1.5.8. main dangers to survivors

Competence 2: Minimize the rise of fire and maintain a state of readiness to respond to emergency situations involine fifre

2.1. Shipboard fire-fighting organization
2.2. Location of fire-fighting appliances and emergency escape routes
2.3. The elements of fire and explosion (the fire triangle)
2.4. Types and sources of ignition
2.5. Flammable materials, fire hazards and spread of fire
2.6. The need for constant vigilance
2.7. Actions to be taken on board ship
2.8. Fire and smoke detection and automatic alarm systems
2.9. Classification of fire and applicable extinguishing agents

Competence 3: Fight and extinguish fires

3.1. Fire-fighting equipment and its location on board
3.2. Instruction in :
  3.2.1. Fixed installations
  3.2.2. Fire-fighter’s outfits
  3.2.3. Personal equipment
  3.2.4. Fire-fighting appliances and equipment
  3.2.5. Fire-fighting methods
  3.2.6. Fire-fighting agents
  3.2.7. Fire-fighting procedures
  3.2.8. Use of breathing apparatus for fighting fires and effecting rescues

Competence 4: Take immediate action upon encountering an accident or other medical emergency

4.1. Assessment of needs of casualties and threats to own safety
4.2. Appreciation of body structure and functions
4.3. Understanding of immediate measures to be taken in cases of emergency, including the ability to:
  4.3.1. position casualty
  4.3.2. apply resuscitation techniques
  4.3.3. control bleeding
  4.3.4. apply appropriate measures of basic shock management
  4.3.5. apply appropriate measures in event of burns and scalds, including accidents caused by electric current
  4.3.6. rescue and transport a casualty
  4.3.7. improvise bandages and use materials in the emergency kit

Competence 5: Comply with emergency procedures

5.1. Types of emergency which may occur, such as collision, fire, foundering
5.2. Knowledge of shipboard contingency plans for response to emergencies
5.3. Emergency signals and specific duties allocated to crew members in the muster
5.4. List : muster stations : correct use of personal safety equipment
5.5. Actions to take on discovering potential emergency, including fire, collision, foundering and ingress of water into the ship
5.6. Action to take on hearing emergency alarm signals
5.7. Value of training and drills
5.8. Knowledge of escape routes and internal communication and alarm systems

Competence 6: Take precautions to prevent pollution of the marine environment

6.1. Basic knowledge of the impact of shipping on the marine environment and the effects of operational or accidental pollution on it
6.2. Basic environmental protection procedures
6.3. Basic Knowledge of complexity and diversity of the marine environment

Competence 7:Observe safe working practices

7.1. Importance of adhering to safe working practices at all times
7.2. Safety and protective devices available to protect against potential hazards aboard ship
7.3. Precautions to be taken prior to entering enclosed spaces
7.4. Familiarization with international measures concerning accident prevention and occupational health

Competence 8: Contribute to effective communications onboard ship

8.1. Understand the principles of, and barriers to, effective communication between individuals and teams within the ship
8.2. Ability to establish and maintain effective communications

Competence 9: Contribute to effective human relations ships on board ship

9.1. Importance of maintaining good human and working relationships aboard ship
9.2. Basic teamworking principles and practice, including conflict resolution
9.3. Social responsibilities; employment conditions; individual rights and obligations; dangers of drug and alcohol abuse

Competence 10: Understand and take necessary actions to control fatigur

10.1 Importance of obtaining the necessary rest
10.2 Effects of sleep, schedules, and the circadian rhythm on fatigue
10.3 Effects of physical stressors on seafarers
10.4 Effects of environmental stressors in and outside the ship and their impact on Seafarers
10.5 Effects of schedule changes on seafarer fatigue

ANNEX (H)

Medical Care - Certificate of Proficiency
Online Training Course
(STCW Convention 1978 as amended, Regulation VI/4-2 & STCW Code Section A-VI/4-2)

(A) System of Maritime Education & Training, Examination and Certification for Medical Care - Certificate of Proficiency (STCW regulation VI/4-2)

The Certificate of Proficiency in Medical Care training course for seafarers designated to take charge of medical care on board ship consists of practical training, theory lectures and written examination in the Approval Maritime Training Centre.

1. Every candidate for certification shall:

   (A) hold the Certificate of Competency for Officer in charge of Navigational Watch or Certificate of Competency for Officer in charge of Engineering Watch.

   (B) have completed the online training courses conducted in approved training centres with continuous assessment system and followed up by written examination to meet the standard of competence specified in section A-VI/4,paragraph 4 to 6 of the STCW Code.

2. The online training and assessment shall be administered, supervised and monitored by the Department of Marine Administration.

3. The Department of Marine Administration will issue the Certificate of Proficiency in Medical Care to the candidate who has successfully completed the approved online training course.

(B) Teaching System and Method of Demonstration for Proficiency in Medical Care Training

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Provide medical care to the sick and injured persons on board	40.5			
Participate in coordinated schemes for medical assistance to ships	3.0			
Total	**43.5**			

This course shall be supplemented by the following practical exercise.

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Provide medical care to the sick and injured persons on board	2.0	Practical Assessment and Written Exam(MTC)	1	50
Total	**2.0**			

(C) Syllabus of Maritime Education & Training, Examination and Certification for Medical Care - Certificate of Proficiency

Specification of minimum standard of competence in medical care

Competence No.1- Procide medical care to the sick and injured while they remain onboard

1.1. Care of casualty involving:

- 1.1.1. head and spinal injuries
- 1.1.2. injuries of ear, nose, throat and eyes
- 1.1.3. external and internal bleeding
- 1.1.4. burns, scalds and frostbite
- 1.1.5. fractures, dislocations and muscular injuries
- 1.1.6. wounds, wound healing and infection
- 1.1.7. pain relief
- 1.1.8. techniques of sewing and clamping
- 1.1.9. management of acute abdominal conditions
- 1.1.10. minor surgical treatment
- 1.1.11. dressing and bandaging

1.2. Aspects of nursing:

- 1.2.1. general principles
- 1.2.2. nursing care

1.3. Diseases, including:

- 1.3.1. medical conditions and emergencies
- 1.3.2. sexually transmitted diseases
- 1.3.3. tropical and infectious diseases

1.4. Alcohol and drug abuse

1.5. Dental care

1.6. Gynaecology, pregnancy and childbirth

1.7. Medical care of rescued persons

1.8. Death at sea

1.9 Hygiene

Competence No.2- Participate in coordinated schemes for mecical assistanceto ships

2.1. External assistance, including:

- 2.1.1. radio medical advice
- 2.1.2. transportation of the ill and injured, including helicopter evacuation
- 2.1.3. medical care of sick seafarers involving cooperation with port health authorities or out-patient wards in port

ANNEX (I)

Medical First Aids - Certificate of Proficiency
Online Training Course
(STCW Convention 1978 as amended, Regulation VI/4-1 & STCW Code Section A-VI/4-1)

(A) System of maritime education & training, examination and certification for medical first aid- certificate of proficiency (STCW regulation VI/4-1)

The Medical First Aid Certificate of Proficiency course for seafarers designated to provide medical first aid on board ship consists of practical training, theory lectures and written examination in the Approval Maritime Training Centre,

1. Every candidate for certification shall:
   (A) hold the OOW approved training course completion certificate or OEW Workshop skills completion certificate or Junior Engineer fit certificate or ETO Workshop Skills completion certificate
   (B) have completed the online training course conducted in approved training centres with continuous assessment system and followed up by written examination to meet the standard of competence specified in section A-VI/4, paragraph 1 to 3 of the STCW Code.

2. The online training and assessment shall be administered, supervised and monitored by the Department of Marine Administration.

3. The Department of Marine Administration will issue the Certificate of Proficiency in Medical First Aid to the candidate who has successfully completed the approved online training course.

(B) Teaching system and method of demonstration for proficiency in medical first aid training

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Apply immediate first aid in the event of accident or illness on board	27.0			
Total	**27.0**			

This course shall be supplemented by the following practical exercise.

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Apply immediate first aid in the event of accident or illness on board	3.0			
Total	**3.0**			

(C) Syllabus of Maritime Education & Training, Examination and Certification for Medical First Aid- Certificate of Proficiency

Specification of minimum standard of competence in medical firstaid

Competence No.1 - Apply immediate first aid in the event of accident or illness on board

1.1. First-aid kit
1.2. Body structure and function
1.3. Toxicological hazards on board, including use of the Medical First Aid Guide for Use in Accidents Involving Dangerous Goods (MFAG) or its national equivalent
1.4. Examination of casualty or patient
1.5. Spinal injuries
1.6. Burns, scalds and effects of heat and cold
1.7. Fractures, dislocations and muscular injuries
1.8. Medical care of rescued persons
1.9. Radio medical advice
1.10. Pharmacology
1.11. Sterilization
1.12. Cardiac arrest, drowning and asphyxia

ANNEX (J)

Ship Security Officer - Certificate of Proficiency Online Training Course (STCW Convention 1978 as amended, Regulation VI/5 & STCW Code Section A-VI/5)

(A) System of Maritime Education & Training, Examination and Certification for Ship Security Officer - Certificate of Proficiency Online Training Course

The Certificate of Proficiency in Ship Security Officer online training course for Officers who are assigned specific duties and responsibilities related to perform the duties and responsibilities as Ship Security Officer consists of Continuous Assessment and Online Written Examinations in the Approved Maritime Training Centers.

1. Every candidate for certification shall:
   - (A) hold at least the Certificate of Competency for Officer in charge of a Navigational Watch or Certificate of Competency for Officer in charge of an Engineering Watch or Certificate of Competency for GMDSS Radio Operator;
   - (B) have approved seagoing service of not less than 12 months; and
   - (C) have successfully completed the online training course conducted at the Approved Maritime Training Centers with Continuous Assessment system and followed up by Written Examination via Online Form to meet the standard of competence specified in section A-VI/5, paragraph 1 to 3 of the STCW Code.

2. The online training and assessment shall be administered, supervised and monitored by the Department of Marine Administration (DMA).

3. The DMA shall issue the Certificate of Proficiency in Ship Security Officer to the candidate who has successfully completed the approved maritime training course.

(B) Teaching System and Method of Demonstration for Ship Security Officer – Certificate of Proficiency Online Training Course

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	%
Maintain and supervise the implementation of a ship security plan	7.0	**Online Written Examination (MTC)**	0.5	50
Assess security risk, threat and vulnerability	4.5			
Undertake regular inspections of the ship to ensure that appropriate security measures are implemented and maintained	1.5			
Ensure that security equipment and systems, if any, are properly operated, tested and calibrated	1.5			
Encourage security awareness and vigilance	1.5			
Total	**16**			

(c) Syllabus for Certificate of Proficiency in Ship Security Officer - Certificate of Proficiency Online Training Course

Specification of minimum standard of competence in ship security officers

Competence No.1- Maintain and supervise the implementation of a ship security plan

1.1. Knowledge of international maritime security policy and responsibilities of Governments, companies and designated persons, including elements that may relate to piracy and armed robbery

1.2. Knowledge of the purpose for and the elements that make up a ship security plan, related procedures and maintenance of records, including those that may relate to piracy and armed robbery

1.3. Knowledge of procedures to be employed in implementing a ship security plan and reporting of security incidents

1.4. Knowledge of maritime security levels and the consequential security measures and procedures aboard ship and in the port facility environment

1.5. Knowledge of the requirements and procedures for conducting internal audits, on-scene inspections, control and monitoring of security activities specified in a ship security plan

1.6. Knowledge of the requirements and procedures for reporting to the company security officer any deficiencies and non-conformities identified during internal audits, periodic reviews and security inspections

1.7. Knowledge of the methods and procedures used to modify the ship security plan

1.8. Knowledge of security-related contingency plans and the procedures for responding to security threats or breaches of security, including provisions for maintaining critical operations of the ship/port interface, including also elements that may relate to piracy and arm robbery

1.9. Working knowledge of maritime security terms and definitions, including elements that may relate to piracy and armed robbery

Competence No.2- Assess security risk, threat and vulnerability

2.1. Knowledge of risk assessment and assessment tools

2.2. Knowledge of security assessment documentation, including the Declaration of Securit

2.3. Knowledge of techniques used to circumvent security measures, including those used by pirates and arm robbers

2.4. Knowledge enabling recognition, on a non-discriminatory basis, of persons posing potential security risks

2.5. Knowledge enabling recognition of weapons, dangerous substances and devices and awareness of the damage they cause

2.6. Knowledge of crowd management and control techniques, where appropriate

2.7. Knowledge in handling sensitive security-related information and security-related communications

2.8. Knowledge of implementing and coordinating searches

2.9. Knowledge of the methods for physical searches and non-intrusive inspections

Competence No.3- Undertake regular inspections of the ship

3.1. Appropriate Security Measures are Implemented and Maintained

3.2. Knowledge of the requirements for designating and monitoring restricted areas

3.3. Knowledge of controlling access to the ship and to restricted areas on board ship

3.4. Knowledge of methods for effective monitoring of deck areas and areas surrounding the ship

3.5. Knowledge of security aspects relating to the handling of cargo and ship’s stores with other shipboard personnel and relevant port facility security officers

3.6. Knowledge of methods for controlling the embarkation, disembarkation and access while onboard of persons and their effects

Competence No.4- Ensure that security equipment and systems, if any, are properly operated, tested and calibrated

4.1. Knowledge of the various types of security equipment and systems and their limitations, including those could be used in case of attacks by pirates and armed robbers

4.2. Knowledge of the procedures, instructions and guidance on the use of ship security alert system

4.3 Knowledge of the methods for testing, calibrating and maintaining security systems and equipment, particularly whilst at sea

Competence No.5- Encourage security awareness and vigilance

5.1. Knowledge of training, drill and exercise requirements under relevant conventions, codes and IMO circulars, including those relevant to anti-piracy and anti-armed robbery

5.2. Knowledge of the methods for enhancing security awareness and vigilance on board

5.3. Knowledge of the methods for assessing the effectiveness of drills and exercises

ANNEX (K)

Ship Security Awareness - Certificate of Proficiency
Online Training Course
(STCW Convention 1978 as amended, Regulation VI/6-1 & STCW Code Section A-VI/6-1)

(A) System of Maritime Education & Training, Examination and Certification for Certificate of Proficiency in Ship Security Awareness Online Training Course

The Certificate of Proficiency in Ship Security Awareness online training course for seafarers employed or engaged in any capacity on board a ship on the business of that ship as part of the ship's complement without designated security duties shall receive security-related familiarization and security- awareness training consists of Continuous Assessment and Online Written Examination in the Approved Maritime Training Centre.

1. Every candidate for certification shall:
   - (A) hold the Certificate of Proficiency in Safety Familiarization and Basic Training and
   - (B) have successfully completed the online training course conducted at the Approved Maritime Training Centers with Continuous Assessment system and followed up by Written Examination via Online Form to meet the standard of competence specified in section A-VI/6, paragraphs 1 to 4 of the STCW Code.
2. The online training and assessment shall be administered, supervised and monitored by the Department of Marine Administration (DMA).
3. The DMA shall issue the Certificate of Proficiency in Ship Security Awareness to the candidate who has successfully completed the approved maritime training course.

(B) Teaching System and Method of Demonstration for Certificate of Proficiency in Ship Security Awareness Online Training Course

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	%
Contribute to the enhancement of maritime security through heightened awareness	3.5	**Online Written Examination (MTC)**	0.5	50
Recognition of security threats	1.5			
Understanding of the need for and methods of maintaining security awareness and vigilance	1.0			
Total	**6.0**			

(C) Syllabus for Certificate of Proficiency in Ship Security Awareness Online Training Course

Specification of minimum standard of competence in security awareness

Competence No.1- Contribute to the enhancement in maritime security through heightened awareness

1.1. Basic working knowledge of maritime security terms and definitions, including elements that may relate to piracy and armed robbery

1.2. Basic knowledge of international maritime security policy and responsibilities of Governments, companies and persons

1.3. Basic knowledge of maritime security levels and their impact on security measures and procedures aboard ship and in port facilities

1.4. Basic knowledge of security reporting procedures

1.5. Basic knowledge of security-related contingency plans

Competence No.2- Recognition of security threats

2.1. Basic knowledge of techniques used to circumvent security measures

2.2. Basic knowledge enabling recognition of potential security threats, including elements that may relate to piracy and armed robbery

2.3. Basic knowledge enabling recognition of weapons, dangerous substances and devices and awareness of the damage they can cause

2.4. Basic knowledge in handling security-related information and security-related communications

Competence No.3- Understanding of the need for and methods of maintaining security awareness and vigilance

3.1. Basic knowledge of training, drill and exercise requirements under relevant conventions, codes and IMO circulars, including those relevant for anti-piracy and anti-armed robbery

ANNEX (L)

Designated Security Duties - Certificate of Proficiency (STCW Convention 1978 as amended, Regulation VI/6-2 & STCW Code Section A-VI/6-2)

(A) System of Maritime Education & Training, Examination and Certification for Designated Security Duties Online Training Course

The Certificate of Proficiency in Designated Security Duties online raining course for seafarers who are designated to perform security duties, including anti-piracy and anti-armed-robbery-related activities, consists of Continuous Assessment and Online Written Examination in the Approved Maritime Training Centers.

1. Every candidate for certification shall:
   (A) hold the Certificates of Proficiency in Safety Familiarization and Basic Training and Ship Security Awareness; and
   (B) have successfully completed the online training course conducted at the Approved Maritime Training Centers with Continuous Assessment system and followed up by Written Examination via Online Form to meet the standard of competence specified in section A-VI/6, paragraphs 6 to 8 of the STCW Code.

2. The online training and assessment shall be administered, supervised and monitored by the Department of Marine Administration (DMA).

3. The DMA shall issue the Certificate of Proficiency in Designated Security Duties to the candidate who has successfully completed the approved maritime training course.

(B) Teaching System and Method of Demonstration for Proficiency in Designated Security Duties Online Training Course

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Maintain the conditions set out in a	4.0	**Online Written Examination (MTC)**	0.5	50
Recognition of security risks and	3.0			
Undertake regular security inspections of the ship	1.0			
Proper usage of security equipment and systems, if any	2.5			
Total	**10.5**			

(C) Syllabus for Certificate of Proficiency in Seafarers with Designated Security Duties Online Training Course

Specification of Minimum Standard of Competence For Seafarers With Designated Security Duties

Competence No.1- Maintain the conditions set out in a ship security plan

1.1. Working knowledge of maritime security terms and definitions, including elements that may relate to piracy and armed robbery

1.2. Knowledge of international maritime security policy and responsibilities of Governments, companies and persons, including working knowledge of elements that may relate to piracy and armed robbery

1.3. Knowledge of maritime security levels and their impact on security measures and procedures aboard ship and in the port facilities

1.4. Knowledge of security reporting procedures

1.5. Knowledge of procedures and requirements for drills and exercises under relevant conventions, codes and IMO circulars, including working knowledge of those that may relate to piracy and armed robbery

1.6. Knowledge of the procedures for conducting inspections and surveys and for the control and monitoring of security activities specified in a ship security plan

1.7. Knowledge of security-related contingency plans and the procedures for responding to security threats or breaches of security, including provisions for maintaining critical operations of the ship/port interface, and including also working knowledge of those that may relate to piracy and armed robbery

Competence No.2- Recognition of security risks and threats

2.1. Knowledge of security documentation, including the Declaration of Security

2.2. Knowledge of techniques used to circumvent security measures, including those used by pirates and armed robbers

2.3. Knowledge enabling recognition of potential security threats

2.4. Knowledge enabling recognition of weapons, dangerous substances and devices and awareness of the damage they can cause

2.5. Knowledge of crowd management and control techniques, where appropriate

2.6. Knowledge in handling security-related information and security-related communications

2.7. Knowledge of the methods for physical searches and non-intrusive inspections

Competence No.3- Undertake regular security inspections of the ship

3.1. Knowledge of the techniques for monitoring restricted areas

3.2. Knowledge for controlling access to the ship and to restricted areas on board ship

3.3. Knowledge of methods for effective monitoring of deck areas and areas surrounding the ship

3.4. Knowledge of inspection methods relating to the cargo and ship's stores

3.5. Knowledge of methods for controlling the embarkation, disembarkation and access while on board of persons and their effects

Competence No.4- Proper usage of security equipment and systems, if any

4.1 General knowledge of various types of security equipment and systems, including those that could be used in case of attacks by pirates and armed robbers, including their limitations

4.2 Knowledge of the need for testing, calibrating, and maintaining security systems and equipment, particularly whilst at sea

ANNEX (M)

Efficient Deck Hand – Documentary Evidence
Online Training Course

(A) System of Maritime Education & Training, Examination and Certification for Efficient Deck Hand

The Certificate of Completion on Efficient Deck Hand training course for seafarers who is designated to perform the function at the support level consists of practical training, theory lectures and oral examination in the Approval Maritime Training Centre.

1. Every candidate for certification shall:
   - (A) have approved seagoing service including not less than six months while holding of Certificate of Proficiency in Safety Familiarization and Basic Training
   - (B) have completed the online training courses conducted in approved training centres with continuous assessment system and followed up by oral examination.

2. The training and assessment shall be administered, supervised and monitored by the Department of Marine Administration.

3. The Department of Marine Administration will issue the Certificate for Efficient Deck Hand to the candidate who has successfully completed the approved online training course.

(B) Teaching System and Method of Demonstration for Efficient Deck Hand

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
The meaning & use of common Nautical terms	3.0	Online Assessment (MTC)	1	70
Knowledge of the use of lifesaving and fire-fighting appliances	3.0			
The common seamanship techniques including knots, bends, hitches and slices	3.0			
Code of Safe Working Practice for Merchant Seaman, (COSWP)	13			
Evaluation & Assessment	1.0			
Total	**23.0**			

This course shall be supplemented by the following practical exercise.

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
The common seamanship techniques including knots, bends, hitches and slices	8.0	Practical Assessment and Oral Exam(MTC)	1	70
Evaluation & Assessment	1.0			
Total	**9.0**			

(C) Syllabus of Maritime Education & Training, Examination and Certification for Efficient Deck Hand

Specification of minimum standard of competence for efficient deck hand course

Competence No.1: The meaning and use of common nautical terms

1.1 Mooring Terms
1.2 Common Nautical Terms
1.3 Anchoring Terms
1.4 Knowledge of the correct use of ensigns, courtesy flags and international single letter flags.
1.5 Knowledge of the compass card in 360 degree notation and the ability to report the approximate bearings of an object or light in degrees or points on the bow.
1.6 Understanding helm orders and the ability to communicate with the officer of the watch on matters relevant to watch-keeping duties.
1.7 Procedures for the relief, maintenance and hand over of a watch and the information needed to maintain a safe watch.

Competence No.2: Knowledge of the use of lifesaving and fire-fighting appliances

2.1 Understand the importance of musters and drills and know what action to take on hearing alarm signals;
2.2 Understand the general arrangements and dangers of fixed smothering systems;
2.3 Understand the correct operation, precautions and dangers of lifeboat release gear;
2.4 Understand the procedures for boat preparation and launching;
2.5 Understand the precautions to be observed when maintaining lifeboats and davits;
2.6 Understand the importance of fire and watertight doors

Competence No.3- The common seamanship techiques including knots, bends, hitches and splices

3.1 Common knots bends and hitches including:
3.2 Common splicing and whipping including;
3.3 General deck work including;
3.3 General understanding of mooring operations including;
3.4 General understanding of anchoring operations including;
3.5 General understanding of cargo operations including;
3.6 Practical knowledge of general shipboard maintenance including;

Competence No.4- Code of safe working practice for merchant seaman (Coswp)

4.1 Protective clothing and equipment
4.2 Safety signs and to include standard signs and colours for dangerous goods pipelines, fire extinguishers and gas cylinders
4.3 Safety induction
4.4 Fire precautions
4.5 Emergency procedures
4.6. Safe movement on board ship

4.7 Working aloft and outboard
4.8 Working in machinery spaces
4.9 Permit to work
4.10 Enclosed spaces
4.11 Boarding arrangements
4.12 Manual lifting and carrying
4.13 Use of work equipment
4.14 Lifting plant
4.15 Hydraulic and pneumatic equipment
4.16 Batteries
4.17 Anchoring and Mooring
4.18 Hatches

ANNEX (N)

Deck Officer – Certificate of Competency
Online Refresher and Updating Course
(STCW Convention 1978 as amended, Regulation I/11 & STCW Code Section A-I/11)

(A) System of Maritime Education & Training, Examination and Certification for Deck Officers - Certificate of Competency Online Refresher and Updating Course

The Online Refresher and Updating Course for Deck Officers (Certificate of Competency), who were serving at sea or intend to return to sea after a period ashore in order to continue to qualify for seagoing service at interval of not exceeding five years, consists of theory lectures and Assessment in the Approved Maritime Training Centers.

1. Every candidate for certification shall have successfully completed the online refresher and updating course conducted at the Approved Maritime Training Centers and followed up by Assessment to meet the standard of competency specified in section A-I/11, paragraph 2 of the STCW Code.

2. The online training and assessment shall be administered, supervised and monitored by the Department of Marine Administration (DMA).

3. The DMA shall issue the Deck Officers-Certificate of Competency to the candidates who have successfully completed the online refresher and updating course as well as holding the respective valid Certificates of Proficiency as required by the STCW Convention and STCW Code.

(B) Teaching System and Method of Demonstration for Deck Officers - Certificate of Competency Online Refresher and Updating Course

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Amendments in the last 5 years and future regulations	0.50	Assessment (MTC)	1	50
Amendments and Changes to important codes recommendations and guidelines	0.50			
Latest developments in machinery installations on new ships	0.50			
Advancements related to improvement in design and materials of marine equipment	0.50			
IMO strategy to reduce GHG, MEPC72	0.50			
IMO emission limit	0.25			
New National Emission Control Area and methods	0.25			
Total	**3.00**			

(C) Syllabus for Deck Officers - Certificate of Competency Online Refresher and Updating Course (STCW regulation I/11)

1. Latest and upcoming changes in IMO and ILO conventions

1.1. International Convention for the Safety of Life at Sea, 1974 (SOLAS 1974)

1.2. Protocol of 1988 relating to the International Convention for the Safety of Life at Sea, 1974 (SOLAS PROT 1988)

1.3. Codes and other instruments made mandatory under SOLAS

1.4. International Convention for the Prevention of Pollution from Ships, 1973, as Modified by the Protocol of 1978 relating thereto (MARPOL)

1.5. Codes made mandatory under MARPOL 73/78

1.6. International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 (STCW 1978)

1.7 Maritime Labour Convention 2006

- International Medical Guide for Ships
- Medical First Aid Guide for Use in Accidents Involving Dangerous Goods

- International Maritime Training Guide

2. New technology developments

2.1. Latest developments in machinery installations on new ships being constructed across the world, which may include green technologies and new technologies adopted for propulsion and Auxiliary systems

2.2. Advancements related to improvement in design and materials of marine equipment.

3. Environmental pollution prevention

3.1. Port state control and Flag state inspection, Concentrated inspection Campaigns

3.2. Areas for improvement to avoid detentions.

3.3. IMO strategy to reduce GHG, MEPC72

3.4. IMO emission limit (Tier III)

3.5. New National Emission control Area and methods

ANNEX (O)

Basic Training for Oil and Chemical Tanker Cargo Operations – Certificate of Proficiency Online Revalidation Course (STCW Convention 1978 as amended, Regulation V/1-1-1 & STCW Code Section A-V/1-1-1)

(A) System of Maritime Education & Training, Examination and Certification for Certificate of Proficiency in Basic Training for Oil and Chemical Tanker Cargo Operations Online Revalidation Course

The Certificate of Proficiency in Basic Training for Oil and Chemical Tanker Cargo Operations online revalidation course for seafarers who are assigned specific duties and responsibilities related to cargo or cargo equipment on oil and chemical tankers, consists of Continuous Assessment and Practical Assessment in the Approved Maritime Training Centres.

1. Every seafarer holding a Certificate of Proficiency in Basic Training for Oil and Chemical Tanker Cargo Operations at intervals of not exceeding five years for revalidation, shall have completed the online revalidation course conducted at Approved Maritime Training Centres with Continuous Assessment and Practical Assessment to meet the standard of competence specified in section A-V/1-1, paragraph 1 of the STCW Code.

2. The online training and assessment shall be administered, supervised and monitored by the Department of Marine Administration (DMA).

3. The DMA shall issue the Certificate of Proficiency in Basic Training for Oil and Chemical Tanker Cargo Operations to the candidates who have successfully completed the approved online revalidation course.

(B) Teaching System and Method of Demonstration for Certificate of Proficiency in Basic Training for Oil and Chemical Tanker Cargo Operations Online Revalidation Course

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Basic knowledge of tankers	1.0	**Evaluation & Continuous Assessment (MTC)**	0.5	50
Physical and chemical properties of oil and chemicals	5.0			
Knowledge and understanding of tanker safety culture and safety management	1.5			
Hazards and Basic Knowledge of hazard controls	1.5			
Safety	1.5			
Fire Safety	1.0			
Cargo operations	1.0			
Emergencies For oil and Chemical Tankers	1.5			
Total	**14.0**			

This course shall be supplemented by the following practical exercise or simulator training.

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Tanker Fire Fighting –TFF	3.0	**Practical Assessment (MTC)**	0.5	50
Case Studies on oil and NLS ship Emergencies	1.0			
Total	**4.0**			

(C) Syllabus for Certificate of Proficiency in Basic Training for Oil and Chemical Tanker Cargo Operations Online Revalidation Course

Specification of minimum standard of competence in basic training for oil and chemical tanker cargo operation revalidation course

1. Basic knowledge of tankers

1.1 Types of oil tankers
1.2 Types of Chemical tankers
1.3 Basic knowledge of ship arrangements of an oil tanker and Chemical Tankers
1.4 Pumps and Eductors
1.5 Cargo heating System
1.6 Inert Gas System
1.7 Cargo measurement systems

2. Physical and chemical properties of oil and chemicals

2.1 Basic physics
2.2 Basic chemistry, chemical elements &groups
2.3 Physical properties of oil and chemicals carried in bulk

3. Knowledge and understanding of tanker safety culture and safety management

3.1 **Hazards**

3.1.1 Health hazards
3.1.2 Environmental hazards
3.1.3 Reactivity hazards
3.1.4 Corrosion hazards
3.1.5 Explosion and Flammability hazards
3.1.6 Sources of ignition, Including electrostatic Hazards
3.1.7 Toxicity hazards
3.1.8 Vapour leaks and clouds

3.2 **Basic knowledge of hazard controls**

3.2.1 Inerting, water padding, drying agents and monitoring techniques
3.2.2 Anti-static measures
3.2.3 Ventilation
3.2.4 Cargo segregation
3.2.5 Cargo inhibition
3.2.6 Importance of cargo Compatibility
3.2.7 Atmospheric control
3.2.8 Gas Testing
3.2.9 Understanding of Information on a Material Safety Data Sheet (MSDS)

4. Safety

4.1 Function and proper use of gas-measuring instruments

4.2 Proper use of safety equipment and protective devices including;

4.2.1 breathing apparatus and tank evacuating equipment

4.2.2 protective clothing and equipment

4.2.3 resuscitators

4.2.4 rescue and escape equipment

4.3 Basic knowledge of safe working practices and procedures in accordance with legislation and industry guidelines relevant to oil and chemical tankers

4.3.1 Precautions to be taken when entering enclosed spaces

4.3.2 Precautions to be taken before and during "repair and maintenance" work in a gas dangerous area

4.3.3 Safety measures for hot and cold work

4.3.4 Electrical safety precautions

4.4 Basic knowledge of first aid with reference to a Material Safety Data Sheet (MSDS)

5. Fire safety (Tanker Fire Fighting – TFF)

5.1 Oil and Chemical Tanker fire response organization and action to be taken

5.2 Fire hazards associate with cargo handling and transportation of hazardous and noxious liquids in bulk

5.3 Firefighting agents used to extinguish oil and chemical fires

5.4 Fixed firefighting foam operations

5.5 Portable firefighting foam operations

5.6 Fixed dry chemical powder operations

5.7 Spill containment in relation to firefighting operations

6. Cargo operations

6.1 For Oil and Chemical Tankers

6.2 For oil tankers

6.2.1 Cargo information

6.2.2 Inerting

6.2.3 Loading

6.2.4 Unloading

6.2.5 Tank cleaning

6.2.6 Purging and gas freeing

6.3 For Chemical Tankers

6.3.1 Cargo information

6.3.2 Loading

6.3.3 Unloading

6.3.4 Tank cleaning and gas-freeing

7. Emergencies for oil and chemical tankers

7.1 Basic knowledge of emergency procedures,including emergency shutdown

7.2 Organizational structure

7.3 Alarms

7.4 Emergency procedures

8. Case studies on oil and NLS ship emergencies

8.1 Fire and Explosion during unloading operations on an oil tanker

8.2 Collapsing of seamen during squeegeeing operations

8.3 SOPEP and SMPEPMeasures to be taken in the event of spillage, including the need to:

8.3.1 report relevant information to the responsible persons

8.3.2 assist in implementing shipboard spill-containment procedure

ANNEX (P)

Advanced Training for Oil Tanker Cargo Operations - Certificate of Competency Online Revalidation Course (STCW Convention 1978 as amended, Regulation V/1-1-3 & STCW Code Section A-V/1-1-3)

(A) System of Maritime Education & Training, Examination and Certification for Certificate of Proficiency in Advanced Training for Oil Tanker Cargo Operations Online Revalidation Course

The Certificate of Proficiency in Advanced Training for Oil Tanker Cargo Operations online revalidation course for Masters, Chief Engineer Officers, Chief Mates, Second Engineer Officers and any person with immediate responsibility for loading, discharging, care in transit, handling of cargo, tank cleaning or other cargo-related operations on oil tankers, consists of Continuous Assessment and Practical Assessment in the Approved Maritime Training Centres.

1. Every Masters, Chief Engineer Officers, Chief Mates, Second Engineer Officers and any person with immediate responsibility for loading, discharging, care in transit, handling of cargo, tank cleaning or other cargo-related operations on oil tankers, holding a Certificate of Proficiency in Advanced Training for Oil Tanker Cargo Operations, for continuing seagoing service onboard oil tankers at intervals of not exceeding five years for revalidation, shall have completed the online revalidation course conducted at the Approved Maritime Training Centres with Contiuous Assessment and Practical Assessment to meet the standard of competence specified in section A-V/1-1, paragraph 2 of the STCW Code.

2. The online training and assessment shall be administered, supervised and monitored by the Department of Marine Administration (DMA).

3. The DMA shall issue the Certificate of Proficiency in Advanced Training for Oil Tanker Cargo Operations to the candidate who has successfully completed the approved online revalidation course.

(B) Teaching System and Method of Demonstration for Certificate of Proficiency in Advance Training for Oil Tanker Cargo Operations Online Revalidation Course

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Knowledge of Oil Tanker design systems and equipment	0.25	**Evaluation & Continuous Assessment (MTC)**	0.50	50
Proficiency in Tanker safety culture and implementation of safety management system	0.25			
Knowledge and understanding of monitoring and safety systems, including the emergency shutdown	0.50			
Loading, unloading, care and handling of cargo	0.50			
Knowledge of the effect of bulk liquid cargoes on trim, stability and structural integrity	0.25			
Knowledge and understanding of oil cargo related operations	0.25			
Ability to calibrate and use monitoring and gas detection systems instruments and equipment	0.50			
Ability to manage and supervise personnel with cargo-related responsibilities	0.50			
Knowledge and understanding of the physical and chemical properties of oil cargoes	0.50			
Knowledge and understanding of the hazards and control measures associated with oil tanker cargo operations	0.50			
Knowledge and understanding of safe working practices, including risk assessment and personal shipboard safety relevant to oil tankers	0.50			
Knowledge and understanding of oil tanker emergency procedures	0.50			
Actions to be taken following collision, grounding, or spillage	0.50			
Knowledge of medical first aid procedures on board oil tankers	0.50			
Understanding of procedures to prevent pollution of the atmosphere and the environment	0.50			
Knowledge and understanding of relevant provisions of the International Convention for the prevention of pollution from ships (MARPOL), as amended, and other relevant IMO instruments, industry guidelines and port regulations as commonly applied	0.50			
Total	**7.00**			

This course shall be supplemented by the following simulator training.

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Knowledge of Oil Tanker design systems and equipment	0.25	**Practical Assessment (MTC)**	0.50	50
Proficiency in Tanker safety culture and implementation of safety management system	0.25			
Loading, unloading, care and handling of cargo	0.50			
Knowledge of the effect of bulk liquid cargoes on trim, stability and structural integrity	0.25			
Knowledge and understanding of oil cargo related operations	0.75			
Ability to calibrate and use monitoring and gas detection systems instruments and equipment	0.50			
Knowledge and understanding of the hazards and control measures associated with oil tanker cargo operations	0.50			
Knowledge and understanding of safe working practices, including risk assessment and personal shipboard safety relevant to oil tankers	0.50			
Understanding of procedures to prevent pollution of the atmosphere and the environment	1.00			
Knowledge and understanding of relevant provisions of the International Convention for the prevention of pollution from ships (MARPOL), as amended, and other relevant IMO instruments, industry guidelines and port regulations as commonly applied	0.50			
Total	**5.00**			

(C) Syllabus for Certificate of Proficiency in Advance Training for Oil Tanker Cargo Operations Online Revalidation Course

Specification of minimum standard of competence in advanced training for oil tanker cargo operation

Competence 1: Ability to safely perform and monitor all cargo operations

1.1 Knowledge of oil tanker design, systems and equipment, including
- .1 cargo area venting and accommodation ventilation
- .2 vapour recovery system
- .3 cargo-related electric and electronic control system
- .4 environmental protection equipment, including Oil Discharge Monitoring Equipment
- .5 tank coating
- .6 tank temperature and pressure control systems

1.2 Proficiency in tanker safety culture and implementation of safety-management system

1.3 Knowledge and understanding of monitoring and safety systems, including the emergency shutdown

1.4 Loading, unloading, care and handling of cargo

1.5 Knowledge of the effect of bulk liquid cargoes on trim, stability and structural integrity

1.6 Knowledge and understanding of oil cargo-related operations, including:
- .1 loading and unloading plans
- .2 ballasting and deballasting
- .3 tank cleaning operations
- .4 inerting
- .5 gas-freeing
- .6 ship-to-ship transfers
- .7 load on top
- .8 crude oil washing

1.7 Ability to calibrate and use monitoring and gas-detection system, instruments and Equipment

1.8 Ability to manage and supervise personnel with cargo-related responsibilities

Competence 2: F**amiliarity with physical and chemical properties of oil cargoes**

2.1 Understanding the information contained in a Material Safety Data Sheet (MSDS)

Competence 3: Take precautions to prevent hazards

3.1 Knowledge and understanding of the hazards and control measures associated with oil tanker cargo operations, including:

.1 toxicity
.2 flammability and explosion
.3 health hazards
.4 inert gas composition
.5 electrostatic hazards

3.2 Knowledge and understanding of dangers of non-compliance with relevant rules/regulations

Competence 4: Apply occupational health and safety precautions and measure

4.1 Knowledge and understanding of safe working practices including risk assessment and personal shipboard safety relevant to oil tankers:

.1 Precautions to be taken when entering enclosed spaces, including correct use of different types of breathing apparatus

.2 Precautions to be taken before and during repair and maintenance work

.3 Use of appropriate Personal Protective equipment (PPE)

Competence 5: Respond to emergency

5.1 Knowledge and understanding of oil tanker emergency procedures, including:

.1 ship emergency response plans
.2 cargo operations emergency shutdown
.3 enclosed space rescue
.4 use of a Material Safety Data Sheet (MSDS)

5.2 Actions to be taken following collision, grounding, or spillage

5.3 Knowledge of medical first aid procedures on board oil tankers

Competence 6: Take precautions to prevent pollution of the environment

6.1 Understanding of procedures to prevent pollution of the atmosphere and the environment

Competence 7: Monitor and control compliance with legislative requirements

7.1 Knowledge and understanding of relevant provisions of the International Convention for the Prevention of Pollution from ships (MARPOL), as amended, and other relevant IMO instruments, industry guidelines and Port regulations as commonly applied.

ANNEX (Q)

Advanced Training for Chemical Tanker Cargo Operations – Certificate of Proficiency Online Revalidation Course (STCW Convention 1978 as ameded, Regulation V/1-1-3 & STCW Code Section A-V/1-1-3)

(A) System of Maritime Education & Training, Examination and Certification for Certificate of Proficiency in Advanced Training for Chemical Tanker Cargo Operations Online Revalidation Course

The Certificate of Proficiency in Advanced Training for Chemical Tanker Cargo Operations online revalidation course for Masters, Chief Engineer Officers, Chief Mates, Second Engineer Officers and any person with immediate responsibility for loading, discharging, care in transit, handling of cargo, tank cleaning or other cargo-related operations on chemical tankers, consists of Continuous Assessment and Practical Assessment in the Approved Maritime Training Centres.

1. Every Masters, Chief Engineer Officers, Chief Mates, Second Engineer Officers and any person with immediate responsibility for loading, discharging, care in transit, handling of cargo, tank cleaning or other cargo-related operations on oil tankers, holding a Certificate of Proficiency in Advanced Training for Chemical Tanker Cargo Operations, for continuing seagoing service onboard chemical tankers at intervals of not exceeding five years for revalidation, shall have completed the online revalidation course conducted at the Approved Maritime Training Centres with Continuous Assessment and Practical Assessment to meet the standard of competence specified in Section A-V/1-1, Paragraph 3 of the STCW Code.

2. The online training and assessment shall be administered, supervised and monitored by the Department of Marine Administration (DMA).

3. The DMA shall issue the Certificate of Proficiency in Advanced Training for Chemical Tanker Cargo Operations to the candidate who has successfully completed the approved online revalidation course.

(B) Teaching System and Method of Demonstration for Certificate of Proficiency in Advance Training for Chemical Tanker Cargo Operations Online Revalidation Course

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Practical Application	0.25	**Evaluation & Continuous Assessment (MTC)**	0.5	50
Chemical Tanker designs, systems and equipment	0.25			
Cargo Tank Vent Systems	0.50			
Efficient Stripping	0.25			
Cargo Heating Systems	0.50			
Instrumentation	0.50			
Safety and Pollution Prevention (Review and Updated)	0.50			
Tank/Enclosed Space Atmosphere Evaluation	0.25			
Fire Prevention and Equipment	0.25			
Precautions Concerning Repair and Maintenance	0.50			
Procedures for Loading and Preparations for Loading	0.25			
Unloading, Stripping and Pre-wash Operations with NLS	0.25			
Transfer of Cargo when not Alongside	0.25			
Cargo and Emergency Management	0.50			
Management of Risk on Chemical Tanker	0.50			
Contingency Planning	0.50			
Knowledge and understanding of the hazards and control measures associated with chemical tanker cargo operations	0.50			
Knowledge and understanding of relevant provisions of the International Convention	0.50			
Total	**7.00**			

This course shall be supplemented by the following simulator training.

Subjects	Teaching Hours	Demonstrating competence		
		Method	Hours	% Pass
Practical Application	0.25	**Practical Assessment (MTC)**	0.5	50
Chemical Tanker designs, systems and equipment	0.25			
Efficient Stripping	0.25			
Instrumentation	0.25			
Safety and Pollution Prevention (Review and Updated)	0.50			
Tank/Enclosed Space Atmosphere Evaluation	0.25			
Fire Prevention and Equipment	0.25			
Precautions Concerning Repair and Maintenance	0.25			
Procedures for Loading and Preparations for Loading	0.75			
Unloading, Stripping and Pre-wash Operations with NLS	0.25			
Transfer of Cargo when not Alongside	0.25			
Cargo and Emergency Management	0.50			
Management of Risk on Chemical Tanker	0.50			
Contingency Planning	0.50			
Total	**5.00**			

(C) Syllabus for Certificate of Proficiency in Advance Training for Chemical Tanker Cargo Operations Online Revalidation Course

Specification of minimum standard of competence in advanced training for chemical tanker cargo operation

Competence 1: Ability to safely perform and monitor all cargo operations

1.1. Knowledge of chemical tanker design, systems and equipment, including
- .1 general arrangement and construction
- .2 pumping arrangement and equipment
- .3 tanker construction and arrangement,
- .4 pipeline and drainage system
- .5 tank and cargo pipeline pressure and temperature control systems and alarms
- .6 gauging control systems and alarms
- .7 gas-detecting systems
- .8 cargo heating and cooling systems
- .9 tank cleaning systems
- .10 cargo tank environmental control systems
- .11 ballast systems
- .12 cargo area venting and accommodation ventilation
- .13 vapour return/ recovery system
- .14 fire-fighting system
- .15 tank, pipeline and fittings material and coatings
- .16 slop management

1.2. Knowledge of pump theory and characteristic, including types of cargo pumps and their safe operation

1.3. Proficiency in tanker safety culture and implementation of safety-management system

1.4. Knowledge and understanding of monitoring and safety systems, including the emergency shutdown

1.5. Loading, unloading, care and handling of cargo

1.6. Ability to perform cargo measurements and calculation

1.7. Knowledge of the effect of bulk liquid cargoes on trim, stability and structural integrity

1.8. Knowledge and understanding of oil cargo-related operations, including:
- .1 loading and unloading plans
- .2 ballasting and deballasting
- .3 tank cleaning operations
- .4 tank atmosphere control
- .5 inerting
- .6 gas-freeing

.7 ship-to-ship transfers
.8 inhibition and stabilization
.9 heating and cooling requirements and consequences to adjacent cargoes
.10 cargo compatibility and segregation high- viscosity cargoes
.11 cargo residuce operations
.12 operational tank entry

1.9. Development and application of cargo-related operation plans, procedures and checklists

1.10. Ability to calibrate and use monitoring and gas-detection system, instruments and Equipment

1.11. Ability to manage and supervise personnel with cargo-related responsibilities

Competence 2: Familiarity with physical and chemical properties of chemical cargoes

2.1. Knowledge and understanding of the chemical and the physical properties of noxious liquid substances, including:
.1 chemical cargoes categories (corrosive, toxic, flammable, explosive)
.2 chemical groups and industrial usage
.3 reactivity of cargoes

2.2. Understanding the information contained in a Material Safety Data Sheet (MSDS)

Competence 3: Take precautions to prevent hazards

3.1. Knowledge and understanding of the hazards and control measures associated with chemical tanker cargo operations, including:
.1 flammability and explosion toxicity
.2 toxicity
.3 health hazards
.4 inert gas composition
.5 electrostatic hazards
.6 reactivity
.7 corrosivity
.8 low-boiling-point cargoes
.9 high-density cargoes
.10 solidifying cargoes
.11 polymerizing cargoes

3.2. Knowledge and understanding of dangers of non-compliance with relevant rules/regulations

Competence 4: Apply occupational health and safety precautions

4.1. Knowledge and understanding of safe working practices including risk assessment and personal shipboard safety relevant to chemical tankers:
.1 Precautions to be taken when entering enclosed spaces, including

correct use of Different types of breathing apparatus

.2 Precautions to be taken before and during repair and maintenance work

.3 Precautions for hot and cold work

.4 Precautions for electrical safety

.5 Use of appropriate Personal Protective equipment (PPE)

Competence 5: Respond to emergency

5.1. Knowledge and understanding of chemical tanker emergency procedures, including:

.1 ship emergency response plans

.2 cargo operations emergency shutdown

.3 actions to be taken in the event of failure of systems or services essential to cargo

.4 fire fighting on chemical tankers

.5 enclosed space rescue

.6 cargo reactivity

.7 jettisoning cargo

.8 use of a Material safety Data Sheet (MSDS)

5.2. Actions to be taken following collision, grounding, or spillage

5.3. Knowledge of medical first aid procedures on board chemical tankers, with reference to the Medical First Aid Guide for use in Accidents involving Dangerous Goods(MFAG)

Competence 6: Take precautions to prevent pollution of the environment

6.1. Understanding of procedures to prevent pollution of the atmosphere and the environment

Competence 7: Monitor and control compliance with legislative requirements

7.1. Knowledge and understanding of relevant provisions of the International Convention for the Prevention of Pollution from ships (MARPOL) and other relevant IMO instruments, industry guidelines and Port regulations as commonly applied

7.2. Proficiency in the use of the IBC Code and related documents

ANNEX (R)

Survival Craft and Rescue Boats other than Fast Rescue Boats- Certificate of Proficiency Online Revalidation Course (STCW Convention 1978 as amended, Regulation VI/2-1 & STCW Code Section A-VI/2-1)

(A) System of Maritime Education & Training, Examination and Certification for Certificate of Proficiency in Survival Craft and Rescue Boats other than Fast Rescue Boats Online Revalidation Course

The Certificate of Proficiency in Survival Craft and Rescue Boats other than Fast Rescue Boats (online revalidation course) for Officers and Rating consists of Continuous Assessment and Practical Assessment in the Approved Maritime Training Centres.

1. Every seafarer holding a Certificate of Proficiency in Survival Craft and Rescue Boats other than Fast Rescue Boats, at intervals of not exceeding five years for revalidation, shall have completed the online revalidation course conducted at the Approved Marime Training Centres with Continuous Assessment and Practical Assessment to meet the standard of competence specified in section A-VI/2, paragraphs 1 to 5 of the STCW Code.

2. The online training and assessment shall be administered, supervised and monitored by the Department of Marine Administration (DMA).

3. The DMA shall issue the Certificate of Proficiency in Survival Craft and Rescue Boats other than Fast Rescue Boats to the candidate who has successfully completed the approved online revalidation course.

(B) Teaching System and Method of Demonstration for Certificate of Proficiency in Survival Craft and Rescue Boats other than Fast Rescue Boats Online Revalidation Course

Req	Subjects	Teaching Hours	Demonstrating competence		
			Method	Hours	% Pass
BST	Personal Survival Technique lecture, video training, and discussion online practice	1.75	**Evaluation & Continuous Assessment (MTC)**	0.5	50
PSC &RB	Take charge of a survival craft or rescue boat during and after launch	0.50			
	Operation of survival craft engine	0.25			
	Manage survivors and survival craft after abandoning ship	0.50			
	Use locating device including communication and signalling apparatus and pyrotechnics	0.50			
	Apply first aid to survivors	0.50			
	Total	**4.00**			

This course shall be supplemented by the following practical exercise.

Req	Subjects	Teaching Hours	Demonstrating competence		
			Method	Hours	% Pass
BST	Personal Survival Technique demostration and discussion practice	0.50	**Practical Assessment (MTC)**	0.5	50
PSC &RB	Take charge of a survival craft or rescue boat during and after launch	2.00			
	Operation of survival craft engine	0.25			
	Manage survivors and survival craft after abandoning ship	0.25			
	Total	**3.00**			

(C) Syllabus for Certificate of Proficiency in Survival Craft and Rescue Boats other than Fast Rescue Boats Online Revalidation Course

Specification of minimum standard of competence in survival craft and rescue boats other than fast rescue boats

Competence 1- take charge of a survival craft or rescue boat during and after launch

1.1. Construction and outfit of survival craft and rescue boats and individual items of their equipment
1.2. Particular characteristics and facilities of survival craft and rescue boats
1.3. Various types of device used for launching survival craft and rescue boats
1.4. Methods of launching survival craft into a rough sea
1.5. Methods of recovering survival craft
1.6. Action to be taken after leaving the ship
1.7. Methods of launching and recovering rescue boats in a rough sea
1.8. Dangers associated with use of on-load release devices
1.9. Knowledge of maintenance procedures

Competence 2- operate a suvival craft engine

2.1. Methods of starting and operating a survival craft engine and its accessories together with the use of the fire extinguisher provided

Competence 3- manage suvivors and survival craft after abandoning ship

3.1. Handling survival craft in rough weather
3.2. Use of painter, sea-anchor and all other equipment
3.3. Apportionment of food and water in survival craft
3.4. Action taken to maximize detectability and location of survival craft
3.5. Method of helicopter rescue
3.6. Effects of hypothermia and its prevention; use of protective covers and garments, including immersion suits and thermal protective aids
3.7. Use of rescue boats and motor lifeboats for marshalling liferafts and rescue of survivors and persons in the sea
3.8. Beaching survival craft

Competence 4- use locating devices, including communication and signalling apparatus and pyrotechnics

4.1. Radio life-saving appliances carried in survival craft, including satellite EPIRBs and SARTs
4.2. Pyrotechnic distress signals

Competence 5- apply first aid to survivors

5.1. Use of the first-aid kit and resuscitation techniques
5.2. Management of injured persons, including control of bleeding and shock