Minimum standard of competence for Master Yacht (STCW Reg II/2)

Function: Navigation at the management level

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competency	Criteria for evaluating competency
Plan a voyage and conduct navigation	*Voyage planning and navigation for all conditions by acceptable methods of plotting ocean tracks, by taking into account,* *e.g.:* *.1 restricted waters* *.2 meteorological conditions* *.3 ice* *.4 restricted visibility* *.5 traffic separation schemes* *.6 vessel traffic services (VTS) areas* *.7 areas of extensive tidal effects* Passage Planning *Appraisal and planning* 1 Identify Most Suitable Route – Consult all Relevant Documentation a. Pilot book information: shallow patches, restricted areas, conspicuous landmasses, offshore dangers etc b. set courses on charts, berth to berth, between points of departure and destination c. Prevailing currents and tides (heights and directions) in relevant places d. Reporting areas, VTS and other communication requirements	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved simulator training where appropriate .3 approved laboratory equipment training using: Using: chart catalogues, charts, nautical publications and ship particulars	The equipment, charts and nautical publications required for the voyage are enumerated and appropriate to the safe conduct of the voyage The reasons for the planned route are supported by facts and statistical data obtained from relevant sources and publications Positions, courses, distances and time calculations are correct within accepted accuracy standards for navigational equipment All potential navigational hazards are accurately identified

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	e. Pilotage area requirements f. Identify and highlight dangers on the charts g. Assess and allow suitable margins of safety from dangers h. Weather throughout route, winds, potential fog, ice and any other aspect including TRS storms that could restrict passage or require deviation 2 Determine All Aspects Affecting Navigation a. Identify position fixing arrangements b. Identify bearings and other means of determining the compass error c. determine suitable parallel indexing and identify index ranges d. Define contingency arrangements e. Establish 'abort' position when approaching confined waters f. Identify Traffic Separation areas g. Identify any other special areas and restrictions, which may affect the safe navigation h. Determine changes in compass errors by variation chart or similar 3 Pre Sailing Brief a. Understand the importance of pre-sailing briefing b. Identify information to be discussed at pre-sailing		

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	briefing 4 Use of ECDIS with Passage Planning a. Plan and save a route using ECDIS, adding text and warnings, where necessary b. Set appropriate alarm parameters, i.e. safety depth, safety contour, deviation limits c. Determine the availability of appropriate charts and their coverage 5 Fuel Consumption and Range a. Determine total distance to travel and fuel consumption b. Determine a safe fuel reserve required c. Determine fuel required at departure port *Execution and Monitoring* 6 Navigation Safety a. Determine course to steer to make good a desired course b. Fix vessel's position by visual and/or radar – cross check c. Fix vessel's position by electronic navigational aids – cross check d. Effectively monitor the vessels progress by ECDIS e. Monitor the vessel's position by parallel index with reference to the planned track in coastal estuarial waters and port approaches f. Maintain the vessel in a safe		

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	position g. Execute 'contingency arrangements' in the event of steering failure, engine breakdowns, blackouts etc h. Monitor other vessels by radar/ARPA i. Comply fully with the International Regulations for Preventing Collisions at Sea j. Utilise AIS information from an MKD unit or AIS/ARPA/ECDIS interface to enhance situation awareness k. Conduct a pre-planned coastal passage in the simulator in clear and/or reduced visibility demonstrating seamanlike navigation and Chartwork skills 7 Conduct Arrival Briefing a. Understand the importance of arrival briefings b. Identify the information to be discussed at an arrival briefing		
Determine position and the accuracy of resultant position fix by any means	*Position determination in all conditions:* *.1 by celestial observations* *.2 by terrestrial observations, including the ability to use appropriate charts, notices to mariners and other publications to assess the accuracy of the resulting position fix* *.3 using modern electronic navigational aids, with specific knowledge of their operating principles,*	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved simulator training where appropriate .3 approved laboratory equipment training using: .3.1. charts, nautical almanac, plotting sheets, chronometer, sextant and a	The primary method chosen for fixing the ships position is the most appropriate to the prevailing circumstances and conditions The fix obtained by celestial observations is within accepted accuracy levels The fix obtained by terrestrial observations is within accepted accuracy levels

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	limitations, sources of error, detection of misrepresentation of information and methods of correction to obtain accurate position fixing	calculator .3.2 charts, nautical publications and navigational instruments (azimuth mirror, sextant, log, sounding equipment, compass) manufacturers manuals .3.3 radar, terrestrial electronic position fixing systems, satellite navigation systems and appropriate nautical charts and publications	The accuracy of the resulting fix is properly assessed The fix obtained by the use of electronic navigational aids is within the accuracy standards of the systems in use. The possible errors affecting the accuracy of the resulting position are stated and methods of minimizing the effects of system errors on the resulting position are properly applied
Determine and allow for compass errors	*Ability to determine and allow for errors of the magnetic and gyro- compass* *Knowledge of the principles of magnetic and gyro-compasses* *An understanding of systems under the control of the master gyro and a knowledge of the operation and care of the main types of gyro-compass*	Examination and assessment of evidence from one or more of the following: .1 approved in-service experience .2 approved simulator training, where appropriate .3 approved laboratory equipment training Using: celestial observations, terrestrial bearings and comparison between magnetic and gyro-compasses	The method and frequency of checks for errors of magnetic and gyro-compasses ensures accuracy of information
Establish Watchkeeping arrangements and procedures	*A thorough knowledge of content, application and intent of the International Regulations for the Preventing Collisions at Sea, 1972, as amended* Application of the International Regulations for the Preventing Collisions at Sea, 1972, as amended	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved simulator training, where appropriate	Watchkeeping arrangements and procedures are established and maintained in compliance with international regulations and guidelines so as to ensure the safety of navigation, protection of the marine environment and safety of the ship

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	a. Appreciate the need for early and substantial action and dangers of assumptions made on inadequate information b. Take suitable action incompliance with the Rules to avoid close quarter situations with vessels in sight of one another c. Take suitable action in compliance with the Rules to avoid close quarter situations with vessels detected by Radar alone, but not observed visually d. Determine a safe speed taking account all prevailing conditions e. Whilst conducting a simulated passage, analyse potential collision risks when in a potential multi-vessel encounter, determine and execute best action to avoid a close quarter situation *Thorough knowledge of the content of , application and intent of the Principles to be observed when keeping a navigational watch* 1 Watchkeeping 1 Can explain the procedures for the keeping of a safe navigational watch 2 Can explain the procedures for establishing a navigational policy, including Watchkeeping arrangements and hours of work 3 Can demonstrate an understanding of the importance of handing over, relieving and maintaining a		and persons onboard

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	watch in accordance with established principles and procedures 4 Can discuss the watch-keeper's role and responsibilities with particular reference to maintaining a lookout, monitoring traffic, the vessel and environment 5 Can explain the responsibilities and duties of lookouts 6 Can demonstrate an understanding of the precautions necessary when changing over from hand to automatic steering and vice-versa 7 Can explain the possible dangers in the use of VHF in collision avoidance 8 Can demonstrate an understanding of practical application of the International Regulations for Preventing Collisions at Sea 9 Can state the importance of correct logbook entries and other record maintenance activities 10 Can state the necessity for clear bridge communication between the various members of the bridge team including a pilot when onboard 11 Can demonstrate an understanding of the importance of Master's standing instructions, standing order and night orders		
Maintain safe navigation through the use	*An appreciation of system errors and thorough understanding of the*	Examination and assessment of evidence from approved ARPA	Information obtained from navigation equipment and systems

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of information from navigation equipment and systems to assist command decision making Note: training and assessment in the use of ARPA is not required for those who serve exclusively on ships not fitted with ARPA. This limitation shall be reflected in the endorsement issued to the seafarer concerned	*operational aspects of navigational systems* *Blind pilotage planning* *Evaluation of navigational information derived from all sources, including radar and ARPA, in order to make and implement command decisions for collision avoidance and for directing the safe navigation of the ship* *The interrelationship and optimum use of all navigational data for conducting navigation* *Radar* Radar Display 1 Understand modes of operation a. Understand and utilise the advantages of the different display orientations b. Understand and utilise the advantages of the different modes of display c. Understand and utilise the advantages of sea and ground stabilization d. Appreciate and utilise target trails 2 Use of Radar in Navigation a. Operate ARPA interfaced with an ECDIS b. Understand advantages and limitations of ARPA and tracked target overlay on ECDIS display c. Understand advantages and limitations of overlaying radar	simulator and one or more of the following: .1 approved in-service experience .2 approved simulator training, where appropriate .3 approved laboratory equipment training	is correctly interpreted and analysed, taking into account the limitations of the equipment and the prevailing circumstances and conditions Action taken to avoid a close encounter or collision with another vessel is in accordance with the International Regulations for Preventing Collisions at Sea, 1972, as amended

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	picture onto ECDIS *Practical Radar Plotting* 1 Practical Radar Plotting a. Perform paper and real-time simulator plotting of more than one target b. Determine effect of own ship alteration of course on CPAs of other targets *ARPA and Target Tracking Radar* 1 IMO Performance Standards for ARPA a. An appreciation of the performance standards in particular the standards relating to accuracy 2 Factors Affecting System Performance and Accuracy a. Knowledge of ARPA sensor input parameters – radar, compass and speed inputs and the effects of sensor malfunction on the accuracy of ARPA data b. Knowledge of: • The effects of the limitations of radar range and bearing discrimination and accuracy and the limitations of compass and speed input accuracies on the accuracy of ARPA data • Factors which influence vector accuracy • 3 Tracking Capabilities and Limitations a. Knowledge of:		

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	• The criteria for the selection of targets by automatic acquisition • The factors leading to the correct choice of targets for manual acquisition • The effects on tracking of lost targets and target fading • The circumstances causing 'target swap' and its effects on displayed data • The limits imposed on both types of acquisition in multi-target scenarios 4 Processing Delays a. Knowledge of: • The delays inherent in the display of processed ARPA information, particularly on acquisition and reacquisition or when a tracked target, or own ship, manoeuvres 5 Operational Warnings a. Appreciation of: • The uses, benefits and limitations of ARPA operational warnings and their correct setting, where applicable, to avoid spurious alarms and distraction 6 True and Relative Vectors and Typical Graphic Representation of Target Information and Danger Areas a. Thorough knowledge of true and relative vectors, derivation of targets' true courses and speeds including:		

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	• Threat assessment, derivation of predicted closest point of approach and predicted time to closest point of approach from forward extrapolation of vectors, the use of graphic representation of danger areas • The effects of alteration of course and/or speed of own ship and/or targets on predicted closest point of approach and predicted time to closest point of approach and danger areas • The effects of incorrect vectors and danger areas • The benefits of switching between true and relative vectors 7 Information on past positions being tracked a. Knowledge of : • The derivation of past positions of targets being tracked • Recognition of historic data as a means of indicating recent manoeuvring of targets and as a method of checking the validity of the ARPA's tracking 8 Setting Up and Maintaining Displays a. Ability to demonstrate: • The selection of display presentation; stabilised relative motion displays and true motion displays • The correct adjustment of all variable radar display		

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	controls for optimum display of data • The selection as appropriate of required speed input • The selection of ARPA tracking controls, manual automatic acquisition, vector/graphic display of data • The selection of the time scales of vectors/graphics • The use of exclusion areas when automatic acquisition is utilised • Performance checks of radar, compass and speed input sensors and ARPA 9 Obtaining Information from the ARPA Display a. Ability to obtain information in both relative and true modes of display, including: • The identification of critical echoes • The speed and direction of target's relative movement • The time to and predicted range at target's closest point of approach • The courses and speeds of targets • Detecting changes of target's courses and speeds and the limitations of such information • The effect of changes in own ship's course or speed or both • The operation of the trial manoeuvre 10 Application of the		

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	International Regulations for Preventing Collision at Sea a. Analysis of potential collision situations from displayed information, determination and execution of action to avoid close quarters situations in accordance with the International Regulations for Preventing Collisions at Sea 11 Interfacing ARPA With Other Systems A Understands the ability to integrate data between navigational aids and their limitations, i.e. ARPA to ECDIS, GPS to ARPA and ECDIS b. Appreciates the dangers and limitations of data transfer between equipment *AIS (Automatic Identification System)* AIS a. Is aware of the AIS concepts • Understands the objectives of AIS • Aware of the system concepts of AIS • Aware of the SOTDMA concept • Describes the major constituents of a shipborne system b. Understands the elements of AIS data: • Understands the information included in static data		

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	• Understands the information included in dynamic data • Understands the information included in voyage related data • Understands the associated transmission intervals for each group of data • Understands the use of safety and security related messages • Aware of the use of AIS as aids to navigation c. AIS Ship Installations • Understands carriage requirements • Understands the MKD configuration • Understands the Radar/ECDIS configuration d, Use of AIS at Sea • Understands the need for checks of own ship input data • Understands the use of AIS data on a radar or ECDIS display • Aware of caution when making decisions based on AIS target data • Understands the advantages and disadvantages of AIS compared with radar • Understands the principles and use of target association		
Maintain the safety off navigation	*Management of operational procedures, system files and*	Assessment of evidence obtained from one of the	Operational procedures for using ECDIS are established, applied and

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through the use of ECDIS and associated navigation systems to assist command decision making Note: Training and assessment in the use of ECDIS is not required for those who serve exclusively on ships not fitted with ECDIS. This limitation shall be reflected in the endorsement issued to the seafarer concerned	*data, including:* *.1 manage procurement, licensing and updating of chart data and system software to conform to the established procedures* *.2 system and information updating, including the ability to update ECDIS system version in accordance with vendor's product development* *.3 create and maintain system configuration and backup files* *.4 create and maintain log files in accordance with established procedures* *.5 create and maintain route plan files in accordance with established procedures* *.6 use ECDIS log-book functions for inspection of system functions, alarm settings and user responses* *Use ECDIS playback functionality for passage review, route planning and review of system functions* *ECDIS (Electronic Chart Display and Information Systems)* Thorough knowledge of and ability to use ECDIS, particularly: a. Understand the operational difference between ECS and ECDIS b. Understand the principal types of electronic charts available; • Raster charts • Vector charts	following: .1 approved in-service experience .2 approved training ship experience .3 approved ECDIS simulator training	monitored Actions taken to minimize risk to safety of navigation

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	c. Be aware of S-52 and S-57 IHO performance standards d. Understand the significance of ENC's and their use with ECDIS e. Create a voyage plan f. Apply appropriate safety settings g. Execute a safety check on the voyage plan h. Control of navigational functions and settings i. Manage specific functions of route monitoring j. Understand status indications, indicators and alarms k. Manage Radar, ARPA and AIS overlays l. Monitor integrity of the system m. Understand the dangers of over reliance on ECDIS n. Knowledge of procurement and licensing and updating procedures o. Knowledge of the voyage log requirements and procedures		
Forecast weather and oceanographic conditions	*Ability to understand and interpret a synoptic chart and to forecast area weather, taking into account local weather conditions and information received by weatherfax* *Knowledge of the characteristics of various weather systems, including tropical revolving storms and avoidance of storm centers and the dangerous quadrants* 1 Can demonstrate an elementary knowledge of lapse rates and atmospheric	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved laboratory equipment training	The likely weather conditions predicted for a determined period are based on all available information Actions taken to maintain safety of navigation minimize any risk to the safety of the ship Reasons for intended action are backed up by statistical data and observations of the actual weather

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	stability 2 Can explain the process of cloud formation and understands the classification of clouds 3 Can explain local and regional effects of heating and cooling 4 Can give a simple explanation of the causes of monsoons 5 Can explain the formation of permanent and semi-permanent high and low pressure areas 6 Can state the relationship between pressure distribution and wind 7 Can demonstrate a basic understanding of air masses and their properties 8 Can discuss the weather associated with rising and falling pressure 9 Can demonstrate an understanding of the terms pressure tendency and pressure gradient 10 Can demonstrate an ability to interpret simple marine weather forecasts 11 Can demonstrate an understanding of the dangers of navigating in or near ice 12 Can explain the formation of ice accretion on vessels and the associated dangers 13 Can demonstrate an understanding of the formation of tropical revolving storms and where they are likely to		conditions

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	occur 14 Can explain using diagrams the probable path of a tropical revolving storm in the southern and northern hemisphere and the strategies for the avoidance of these storms as contained in the Mariners Handbook 15 Can demonstrate a knowledge of the types of weather messages including surface analysis and forecast charts and common weather chart symbols 16 Can demonstrate knowledge of the organisations providing meteorological information to shipping 17 Can describe the reliability of weather forecasts with respect to interval and forecast duration 18 Can describe the use of weather messages to deduce the probable weather and changes in the weather 19. *Knowledge of ocean current systems* 20. *Ability to calculate tidal conditions* 21. *Use all appropriate nautical publications on tides and currents*		
Respond to navigational emergencies	Can explain the procedure and precautions when beaching a ship Can explain actions to be taken if grounding is imminent , and after grounding Can discuss re-floating a	Examination and assessment of evidence obtained from practical instruction, in-service experience and practical drills in emergency procedures	The type and scale of any problem is promptly identified and decisions and actions minimise the effects of any malfunction of the ship's systems

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	grounded vessel with and without assistance Can explain the actions to be taken if collision is imminent Can explain the actions to be taken following a collision or impairment of the watertight integrity of the hull by any cause Can explain the assessment of damage control and discuss measures to preserve stability and trim in the event of damage Can demonstrate an understanding of man-over-board manoeuvres Can explain the necessity to keep records and make reports to meet statutory and organizational requirements; Can explain action required in the event of loss of essential systems:- • Can discuss action to be taken in the event of loss of steering • Can explain the operation of emergency steering systems • Can discuss options available when rigging of a jury rudder • Can demonstrate an awareness of the actions to be taken in a drifting vessel Can explain emergency towing arrangements and towing procedure		Communications are effective and comply with established procedures Decisions and actions maximise safety of persons on board
Manoeuvre and handle a ship in all	*Manoeuvring and handling a ship in all conditions,*	Examination and assessment of evidence obtained from one or more	All decision concerning berthing and anchoring are based on a proper

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conditions	*including:* *.1 manoeuvres when approaching pilot stations and embarking or disembarking pilots, with due regard to weather, tide, headreach and stopping distances* a. Can explain the procedures and precaution necessary when embarking and disembarking a pilot b. Can demonstrate an awareness of the effects of weather, tide headreach, stopping distance and currents *.2 handling ship in rivers, estuaries and restricted waters, having regard to the effects of current, wind and restricted water on helm response* a. Can discuss methods of handling a vessel in rivers, estuaries, restricted waters, and in harbours *.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* a. Can demonstrate an understanding of the effects experienced when manoeuvring in shallow waters, including reduction of underkeel clearance by squat, rolling and pitching b. Can demonstrate an awareness of dangers likely to be encountered in shallow waters	of the following: .1 approved in-service experience .2 approved simulator training, where appropriate .3 approved manned scale ship model, where appropriate	assessment of the ship's manoeuvring and engine characteristics and the forces to be expected while berthed alongside or lying at anchor While under way, a full assessment is made of possible effects of shallow and restricted waters, ice, banks, tidal conditions, passing ships and own ship's bow and stern wave so that the ship can be safely manoeuvred under various conditions of loading and weather

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	c. Can demonstrate an awareness of dangers likely to be encountered in and near reefs *.5 interaction between passing ships and between own ship and nearby banks (canal effect)* a. Can demonstrate an understanding of interaction between passing vessels *.6 berthing and unberthing under various conditions of wind, tide and current with and without tugs* a. Can discuss the considerations when approaching a dock or berth *.7 ship and tug interaction* *.8 use of propulsion manoeuvring systems* a. Can demonstrate an understanding of the use and limitations of manoeuvring and propulsion systems *.9 choice of anchorage with one or two anchors in limited anchorages and factors involved in determining the length of anchor cable to be used* a. Procedures for bringing a vessel to anchor:- • Can explain the factors that effect the choice of anchorage, including the expected weather and the quality of the holding ground • Can demonstrate an understanding of methods of anchoring using one or		

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	two anchors • Can explain how to achieve a running moor, standing moor and Mediterranean moor • Can explain actions when anchoring in deep water • Can explain actions when anchoring in heavy weather .*10 dragging anchor; clearing fouled anchor* a. can explain the requirements for an anchor watch b. Can explain actions when dragging anchor c. Can discuss procedures for clearing a fouled anchor .*11 dry-docking, both with and without damage* .*12 management and handling of ships in heavy weather;* a. Can explain the precautions necessary when heavy weather is forecast b. Can explain the dangers of synchronous rolling c. Can describe the dangers to the vessel and crew of heavy rolling and pitching with particular reference to structural damage and injury to personnel d. Can demonstrate an awareness of the dangers of running before a following sea e. Is able to demonstrate an appreciation of the dangers of excessive speed in adverse conditions		

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	f. Can describe the procedure for heaving to, bow and stern to the sea g. Can explain the dangers of squalls in smaller vessels h. Can discuss the handling of a disabled vessel in heavy weather and methods that can be used to prevent the vessel broaching too in a heavy sea i. Towing operations; • Can explain the selection of suitable towing points • Can outline the procedure for preparing to tow or to be towed including the selection of suitable gear • Can discuss the various methods of passing and securing a tow • Can explain the methods of steering a vessel under tow and when being towed • Can explain the procedure of letting go a tow j. Assisting a ship or aircraft in distress a. Can explain actions to assist a ship or aircraft in distress k. Means of keeping an unmanageable ship out of the trough of the sea l. Lessening drift m. Use of oil n. Precautionary measures for maintaining buoyancy; • Can explain the importance of ensuring water freeing arrangements are maintained with particular reference to		

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	deck drains and scuppers • Can demonstrate an awareness of the importance of securing anchors and chains with reference to closing the hawse and spurling pipes • Can demonstrate an awareness of the dangers of side openings and shell doors • Can demonstrate an awareness of the importance of securing jet-skies, tenders etc., instructions to the crew and routine checks • Can demonstrate an awareness of the practical aspect of keeping records regarding watertight integrity .*13 precautions in manoeuvring to launch rescue boats or survival craft in bad weather* a. Can describe the precautions when launching and manoeuvring a rescue boat or survival craft in heavy weather .*14 methods of taking on board survivors from rescue or survival craft* a. Can describe the method of taking on survivors from rescue or survival craft .*15 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*		

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	a. Can demonstrate awareness of sources of manoeuvring data .*16 importance of navigation at reduced speed to avoid damage caused by ship's bow wave and stern wave* .*17 practical measures to be taken when navigating in or near ice or in conditions of ice accumulation on board* .*18 use of, and manoeuvring in and near, traffic separation schemes and in vessel traffic service (VTS) areas*		
Operate remote controls of propulsion plant and engineering systems and services	Operating principles of marine power plants Ship's auxiliary machinery General knowledge of marine engineering terms	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved simulator training, where appropriate	Plant, auxiliary machinery and equipment is operated in accordance with technical specifications and within safe operating limits at all times

Function: Controlling the operation of the ship and care for persons on board at management level

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Control trim, stability and stress	*Understanding of fundamental principles of ship construction and the theories and factors affecting trim and stability and measures necessary to preserve trim and stability* *Basic Principles* 1. Basic principles of	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training ship experience	Stability and stress conditions are maintained within safe limit at all times

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	hydrostatics and related terms a. Can calculate the draught and freeboard for a box shaped vessel given the displacement and relative density b. Can calculate the displacement of a vessel given the length, breadth, draught, relative density and block coefficient 2. Fineness of hull form and resistance to forward motion a. Can define bock coefficient and appreciates its influence with regards to resistance to forward motion b. Can outline how fluid flow causes resistance to forward motion with regards to skin friction, and wave making c. Can demonstrate a basic understanding of planing d. can outline the hull forms required for semi-displacement and planing craft 3. Concept of Statical Stability a. Can draw a sketch of a vessel in stable equilibrium showing the positions of G ,M, Z and B when heeled to an angle up to deck edge immersion b. Can explain, with reference to the sketch in a above, how forces through G and B create a righting lever and righting moment and how the magnitude of GZ is influenced by the vessels beam 4. Concept of Stability a. Can define the transverse metacenter (M) and initial metacentric height (GM) b. Can demonstrate an	.3 approved simulator training, where appropriate	

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	understanding that KM is influenced by the beam of a vessel c. Can demonstrate an understanding that the vessel will have a restoring moment if G is below M and an capsizing moment if G is above M using diagrams d. Can demonstrate an appreciation of the magnitude of GM with regards to safety and stiff and tender motion 5. Problems involving loading, discharging and shifting weights a. Can demonstrate the ability to solve problems regarding the effect of the C of G when loading, discharging and transferring weights b. Can calculate, by taking moments about the keel, the final position of KG when loading and discharging weights and obtains GM c. Can demonstrate an understanding of the effects of moving weights off the centerline *List and Related Problems* 1. List a. Can draw a diagram to show that the force lines through G and B lie in the same vertical line when at an angle of list and that the ship oscillates about this equilibrium angle b. Can show that an angle of list is influenced by the magnitude of GM c. Can calculate an angle of list using tanϴ=GG1/GM (Data		

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	sheet giving Natural Function of Angles 0º to 60º to be supplied.) d. Can explain how to correct list by adding, removing transferring weights 2. The inclining experiment a. Can state the reasons for conducting an inclining experiment b. Can give an elementary explanation of the procedures involved in conducting an inclining experiment c. Can prepare a check list of precautions to be observed before and during an inclining experiment in order to ensure an accurate result 3. The effect of slack tanks on the centre of gravity a. Can demonstrate an understanding that a slack tank causes in GZ and can explain that this can be considered as a free surface correction resulting in an increased KG and virtual loss of GM b. Can explain the factors affecting free surface effect with reference to FSM, RD, displacement, position of tank in vessel, depth of liquid in the tank and the effect of longitudinal sub-division c. Can state that the Virtual GM= Solid GM minus Free Surface Correction d. Can state that Free Surface Correction: = Free Surface Moment x Relative Density e. Can obtain Free Surface		

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	Moment from stability data book and calculates correction and virtual GM *Curves of Statical Stability* 1. Curves of statical stability a Can sketch a GZ curve for a vessel in stable equilibrium and identifies the following information on the curve: • Range of positive stability • Maximum GZ and angle at which it occurs • Angle of vanishing stability • Approximate angle of deck edge immersion • Dynamical stability • Approximate initial GM b. Can sketch a curve for a vessel in stable equilibrium given initial GM, maximum GZ and angle at which it occurs, range and angle of vanishing stability c. Can distinguish between curves for stiff and tender vessels d. Can explain how a change in KG (with reference to comparison between departure and arrival conditions) affects the shape and main features of the curve e. Can explain how a change in freeboard affects the shape and main features of the GZ curve f. Can state the criteria for minimum stability identified in the code with regards to GM, maximum GZ and angle at which it occurs g. Can define and describe dynamical stability h. Can state that a simplified stability curve or table of maximum KG's can be provided to ensure that the minimum		

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	stability criteria are met i. Can use simplified stability information in conjunction with simple loading/discharging problems including an allowance for free surface effect j. Can explain the effect of a steady and gusting beam wind on a motor and sailing vessel and how the respective angles of heel can be assessed from the GZ curve using a constant wind-heeling lever k. Can plot wind-heeling moments and determine angles of heel for a sailing vessel 2. Stability data supplied to yachts a. Can demonstrate awareness of the stability date supplied to yachts b. Can use a typical stability booklet to determine stability in various load conditions *Angle of Loll, Dry Docking and Longitudinal Stability* 1. Angle of Loll a. Can show that when GM is negative an upsetting moment is created and, provided the negative GM is not too large, the vessel will attain stable equilibrium at an angle of loll b. Can compare the dangers that can arise to a vessel when lying at an anchor at an angle of loll in still water and at sea c. Can explain that the loll is corrected by achieving a positive GM and that this must be achieved under a controlled		

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	manner d. Can state that loll can be corrected by removing weights from the high side first and adding to the low side first and explains the danger of reversing the procedures e. Can explain the procedure and the response of the vessel if loll is corrected by filling a sub divided centerline tank f. Can distinguish between list and loll 2. Dry Docking a. Can demonstrate an understanding of dry-docking, slipping and lifting b. Can explain the use of a docking plan c. Can explain the preparation of the yacht and dry dock prior to dry-docking d. Can explain the need for an acceptable trim and adequate GM with reference to the buoyancy lost at the waterline being transferred to the point of contact at the keel and that the rise in KG (loss of GM) can be considered as a weight removed from the keel e. Can explain the importance of aligning the support structure and lifting equipment with the vessel's main strength members f. Can explain the importance of Block Soundings 3. Longitudinal Stability a. Can define forward perpendicular, after perpendicular, length between perpendiculars, and length overall b. Can define trim, change of		

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	trim, longitudinal centre of floatation and MCTC *Knowledge of the 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* *Knowledge of IMO recommendations concerning ship stability*		
Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and protection of the marine environment	*Knowledge of international maritime law embodied in international agreements and conventions* *Regard shall be paid especially to the following subjects:* *.1 certificates and other documents required to be carried on board ships by international conventions, how they may be obtained and their period of validity* *Safety Certificates and Documentation* a. Demonstrates an understanding of which vessels are required to comply with The Large Commercial Yacht Code and recognises the benefits of complying with the code b. Can describe the certificate listed below that may be issued for compliance with the Large Commercial Yacht Code with regard to; • period of validity • timing of required surveys • general subject matter of the surveys • purpose of the issuing authority 'conditions of assignment' (where	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training ship experience .3 approved simulator training, where appropriate	Procedures for monitoring operations and maintenance comply with legislative requirements Potential non-compliance is promptly and fully identified Planned renewal and extension of certificates ensures continued validity of surveyed items and equipment

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	applicable) • consequences of failure to comply with the conditions of the Large Yacht Code c. Certificates • International Tonnage certificate for vessels of 24 meters or over • International Load Line certificate for vessels of 24 meters or over • International Safety Construction certificate for vessels of 500 GT or over • International Safety Equipment certificate for vessels of 500 GT or over • International Safety Radio certificate for vessels of 300 GT or over • International Safe Manning certificate for vessels of 500 GT or over • International Oil Pollution Prevention certificate for vessels of 400 GT or over • International Safety Management certificate for vessels of 500 GT or over • International Ship Security certificate for vessels of 500 GT or over • Certificate of Compliance for vessels of 24 meters or over • SOLAS combined safety certificate d. Can summarise the content of any associated documents such as; • SOLAS training manual • Load Line conditions of		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	assignment e. Demonstrates an understanding of the requirements to implement a safety management system on vessels of less than 500 GT as contained in Annex 2 of the Large Commercial Yacht Code f. Demonstrates an understanding of the difference between a 'pleasure vessel' and a 'vessel engaged in trade' g. Recognises that registered 'private yachts' (pleasure vessels) are subject to minimum safety standards h. Demonstrates an understanding of requirement that no yacht can carry more than 12 passengers without special dispensation and can define the word 'passenger' in this context *.2 responsibilities under the relevant requirements of the international Convention on Load Lines, 1966, as amended* *.3 responsibilities under the relevant requirements of the international Convention for the Safety of Life at sea, 1974, as amended* a. Can demonstrate an understanding of the IMO convention concerning Safety of Life at Sea (SOLAS) *.4 responsibilities under the International Convention for the Prevention of Pollution from Ships, as amended* a. Can demonstrate an understanding of the IMO convention concerning protection of the environment b. Can demonstrate a knowledge		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	of the Oil Record Book and the contents, including record keeping c. Can discuss the Garbage Management Plan, including the requirement for record keeping d. Can explain the requirements and limitations associated with at sea garbage disposal areas e. Can explain the problems associated with garbage segregation, onboard storage and landing garbage in port f. Can discuss the precautions required necessary to protect the marine environment g. Can explain the practical prevention of oil spills with particular reference to bunkering operations h. Can demonstrate an understanding of the action to be taken in the event of an accidental oil spillage i. Can demonstrate an understanding of anti-pollution procedures and associated equipment *Prevention of Marine Pollution* Demonstrates an understanding of the principle constraints of the MARPOL convention, specifically: • that it applies to all yachts • is able to identify the Annexes in force and particular pollutants covered by each of these Annexes as relevant to yacht operations • can state that MARPOL prohibits discharge of		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	Annex 1 substances into any sea area • can explain the circumstances in which certain discharges of Annex 1 substances may be permitted • can recognise that all yachts must be constructed and equipped so as to prevent pollution by Annex 1 substances and that certain yachts must carry certificates to prove this • can identify which yachts must carry an International Oil Pollution Prevention Certificate and a SOPEP • can state the structure and function of the SOPEP • can state which yachts must maintain an Oil Record Book in an approved form and describe its content • can describe an Annex lV substance • can describe an Annex V substance • can explain the rules governing the disposal of Annex V substances • can state which yachts must maintain a Garbage Record Book and have a Garbage Management Plan • can describe an Annex Vl substance and have a knowledge of certificates to be held and the equipment carried *.5 maritime declarations of health and the requirements of the International Health regulations* Arrival and departure a. Demonstrates an		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	understanding of the documentation required for arrival in port. E.g. Customs Declaration, Crew List, Clearance Documents b. Demonstrates an understanding of the circumstances giving rise to a mandatory health report, and the procedure to be followed before arrival, on arrival and until health clearance is obtained c. Demonstrates an understanding of the role of the International Maritime Declaration of Health *.6 responsibilities under international instruments affecting the safety of the ship, passengers, crew and cargo* Statutory Safety Duties a. Demonstrates an understanding of the duty of the Master to respond to signals of distress, and the circumstances when a Master is released from his obligation to respond b. Demonstrates an understanding of the Master's statutory obligations following a collision c. Demonstrates an understanding of the actions to be taken in the event of a yacht sustaining material damage, with regard to possible consequences for statutory certificates and insurance d. Can state the definition of a reportable accident, major injury, serious injury and dangerous occurrence and; • Can describe the initial report following an accident		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	and the required follow up reports • Can describe the actions required after each type of incident, including declarations to other responsible authorities • Can state how the MAIB can respond to such reports e. Can state when the master has a duty to report dangers to navigation and can list the six categories and describe the action to be taken f. Can distinguish between compulsory and non-compulsory pilotage and understands the responsibilities between Master, Pilot and owner Safety Organisation a. demonstrates an understanding of the role of Master, safety officer and safety representative b. Can describe the role of the safety committee c. Can summarise, in general terms, the duties of employer and employee under the current Merchant Shipping (Health and Safety) Regulations d. Demonstrates an understanding of, in general terms, the role of and the importance of the ISM code e. Can describe the purpose of risk assessment and how this is applied in a yachting context f. Can describe the objectives and content of a Safety Management System g. Demonstrates an understanding of the purpose of the Code of Safe Working		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	Practices for Merchant Seamen and describes its use in the management of safety on board a yacht h. Can state which yachts must carry copies of the Codes of Safe Working Practices and how many copies are required Seaworthiness and Safe Manning a. Demonstrates an understanding of the Master's responsibility to ensure the seaworthiness of the vessel at the commencement of each voyage and the consequence of attempting to proceed to sea in an unsafe and unseaworthy condition b. Can show an appreciation of the fact that the possession of valid statutory certificates does not, in itself, prove seaworthiness c. Demonstrates an understanding of the concept of 'seaworthiness' can have a much broader definition in civil courts d. Can demonstrate an understanding of the principles by which a vessel may be deemed to be safely manned in accordance with the STCW convention e. Can explain the application of United Kingdom manning regulations to a yacht, and the use of the Large Yacht Code as an alternative to these regulations f. Can demonstrate an understanding of the Marine Labour Convention 2006 (or as amended) and the Hours of Work legislation as described in MSN 1767 (or as amended) g. Can state the duties of Master		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	and chief engineer under United Kingdom merchant shipping regulations as they relate to the organizing and maintenance of safe navigational and engineering watches h. Can explain the use of standing orders as part of the process of safe delegation and supervision of delegated responsibilities and understands the Master's responsibilities to ensure that the navigation bridge is manned by an adequate number of suitably qualified people to deal with prevailing circumstances *.8 national legislation for implementing international agreements and conventions* Legal Framework a. Demonstrates an understanding of, in simple terms, the difference between civil and criminal law can give examples of civil wrongs and criminal offences in the context of yacht operations b. Can describe in general terms the concepts of 'negligence', duty of care', (and specifically 'reasonable care') 'non delegable responsibility' and 'vicarious liability' c. Demonstrates an understanding of the basic criminal law procedure and can describe some of those offences giving rise to fines in excess of the statutory maximum on conviction in the Magistrates Court d. Can describe the role of the MCA and MAIB and recognise their separate functions. In New		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	Zealand can describe the functions of MNZ and TAIC and recognise their separate functions e. Demonstrates an understanding of the importance of Merchant Shipping Acts, Statutory Instruments (Sis), Merchant Shipping Notices (MSNs), Marine Guidance Notices (MGNs), Marie Information Notices (MINs), and Codes of Practice and, in particular, The Large Commercial Yacht Code and the role of the MCA within the structure of the UK marine administration. f. In New Zealand is able to demonstrate an understanding of the importance of the Maritime Transport Act, Maritime Rules, Marine Protection Rules and Advisory circulars g. Demonstrates an understanding of the role of the Official Log Book(OLB) and is able to: • state which yachts must keep an OLB • state the rules governing the recording of information, including the practice of annexing documents / information • state with reference to yachts, when this record must start and when it must be transferred to the Registrar at Cardiff • state, given the considerable detail of the information recorded, the need to have a copy of the Official Log Book regulations for reference when making entries		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	• demonstrate a working knowledge of the information to be recorded in the Official Log Book relevant to the operational management of a yacht and its crew • state the nature of the entries to be made in the narrative section of the Official Log Book International Law a. Can define territorial waters, inland waters and high seas as defined in UNCLOS b. Can describe what is meant by 'freedom of the high seas' c. Demonstrates an understanding of the rights and obligations of Flag State and Port State d. Demonstrates an understanding of the importance of the geographical position of the yacht, the nationality of the crew and of the flag of the yacht in determining criminal jurisdiction e. Demonstrates an understanding of the way international conventions can be policed, the nature of 'innocent passage' and when this may be denied f. Can describe in general terms the role of Port State Control organisations g. Demonstrates an understanding of the role of the UK Register in Cardiff and how to apply for a Certificate of Registry h. Can distinguish between a United Kingdom registered yacht and a British yacht. Has a general understanding of the relationship between the United		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	Kingdom and the Crown Dependencies and British Overseas Territories with reference to the statutory regulation of British yachts i. Demonstrates an understanding of the contents of the MCA publication " A Master's Guide to the UK Flag – Large Yacht Edition" *.9 Security* Security a. demonstrates an understanding of and can explain the objectives of the ISPS code b. Can demonstrate a general understanding of the possible consequences of carrying stowaways and knows the action to be taken to prevent stowaways and action upon the discovery of stowaways c. Can demonstrate an awareness of the advice of the MCA concerning carriage of firearms in British registered vessels and has a knowledge of the recommended precautions in circumstances where armed robbery or piracy are a threat in the context of the Master's duty of care *.10 Contracts and Marine insurance* Contracts of salvage a. Demonstrates an understanding, in broad terms, of the definitions contained in the International Convention on Salvage (Articles 13 and 14) including SCOPIC b. Can explain the practical use		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	of Lloyds Open Form of salvage contract, and its advantages to both parties c. Can define and explain the elements of a valid claim for Salvage in Admiralty Law, in the absence of any contractual obligation to pay for the services involved d. Can explain the interpretation of the expression 'a place of safety' as used in Lloyds Open Form of salvage agreement and the need, wherever possible, to agree a 'place of safety' e. Can explain who has the legal right to control the acceptance or rejection of assistance to yachts f. Demonstrates an understanding of the legal definition of the word 'derelict' g. Demonstrates an understanding of the 'Duties of the Salvor' and the 'Duties of the Master/Owner' h. Can distinguish between contracts for assistance based on salvage principles (Lloyds Open Form) and contracts of hire (towage) i. Can explain the advantages and disadvantages to both parties in the use of the above forms of contract with reference to the practicality of negotiating and using such contracts at sea Contracts of Employment (Crew Agreements) a. Can demonstrate an understanding of the United Kingdom regulations as they relate to the opening and closing		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	of a crew agreement onboard yachts and be able to state the circumstances in which a yacht must have an approved crew agreement b. Demonstrates an understanding that crewmembers are entitled to and are required to a contract on the basis of an approved crew agreement c. Can describe the standard form of approved crew agreement for yachts and explains how the various documents can be obtained d. Can explain the relationship between an approved crew agreement and any other associated contract of employment e. Can describe a procedure for engaging a crew under the standard form of approved crew agreement so as to comply with United Kingdom regulations f. Demonstrates an understanding of the legal obligations of a Master as they relate to the maintenance of crew lists g. Can describe the procedure for terminating a seamen(s) employment under the standard form of yacht agreement so as to comply with United Kingdom regulations h. Can define, with regards to yachts, those persons on board who are passengers as opposed to crew i. Demonstrates an understanding of the statutory obligations of an employer as they relate to the maintenance and repatriation of seamen		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence

	j. Can describe the procedure to be followed so as to comply with all United Kingdom regulations relevant to a crew member who:
	• dies at sea
	• is injured at sea onboard a yacht
	• is incapacitated due to illness and discharged to hospital
	
	k. Can demonstrate a basic understanding of United Kingdom employment law as it relates to yacht crew and be able to:
	• understand and interpret the elements of the Code of Conduct for the Merchant Navy as it relates to yachts
	• understand how to apply paragraph 8, 9 10 and 11 of the code of conduct
	• understand fully paragraph 5 of the Code of Conduct (conduct in the case of emergencies)
	• explain the meaning of fair dismissal, unfair dismissal, wrongful dismissal and constructive dismissal
	• understand the remedies for unfair dismissal
	• understand the conditions for the termination of employment within the context of crew agreement at the:
	  • request of the Master
	  • request of the individual
	  • direct request of the Owner
	
	Yacht Charter Agreements		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	a. Can distinguish between 'bareboat' (Demise) and 'standard' time yacht charter party agreements b. Can describe the consequences of these types of agreement for the owner and charterer in terms of their: • responsibilities • liabilities • degree of operational control c. Can demonstrate an awareness of the importance of prior reading through of all charter agreements Marine Insurance a. can recognise the voluntary and contractual nature of the insurance of yachts b. Can distinguish between the insurance of a yacht and the insurance of other forms of Owner's liabilities c. Can explain the following insurance principles: • indemnity, subrogation and contribution • actual total loss • constructive total loss • particular average (partial loss) • deductibles d. Can state the difference between implied warranty and express warranty and can explain the following marine insurance clauses; • Clause 1 Navigation • Clause 2 Breach of warranty		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	• Clause 5 Termination • Clause 6 Perils • Clause 8 ¾ collision liability • Clause 10 GA and Salvage • Clause 11 Sue and labour • Clause 19 Constructive total loss • Clause 24 War exclusion e. Recognises that hull insurance policies place various restrictions to the use of a yacht, in particular the use of a yacht to save or assist in saving property f. Recognises the change/loss of a Certificate of Class, change of flag or ownership and demise chartering, could all result in automatic termination of hull insurance g. Can explain why underwriters may prefer assistance to vessels at sea to be negotiated on the basis of Lloyds Open Form h. Can describe the function of organisations known as P & I clubs i. Can state the type of risks that yacht owners usually insure with P & I Clubs j. Can describe, in general terms, the likely sequence of events after a major claim. Can describe what must be done immediately after an incident and subsequently, in order to act in the Owner's best interests k. Can demonstrate an awareness of the importance of prior reading every contract of insurance *.11 responsibilities under the Code of Safe Working Practices for Merchant Seamen* 1. Personal hygiene and safety		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	• Can demonstrate an understanding of the importance of complying with health and hygiene requirements • Can discuss the importance of personal care in hot climates • Can demonstrate an understanding of the importance of regular inspections of accommodation 2. Code of Safe Working Practices for Merchant Seamen a. Can explain the purpose and carriage requirements of the Code of Safe Working Practices for Merchant Seamen b. Can describe the advice concerning the maintenance and use of Personal Protective Equipment (PPE) c. Can discuss the regulatory status of the Code of Safe Working Practices for Merchant Seamen d. Can state the importance of personal responsibility for ensuring safe working practices, safe work area and following safety procedures e. Can demonstrate an understanding of the principles of risk assessment and permit to work systems f. Can demonstrate an understanding of the precautions necessary and the dangers involved in the following; • Enclosed space entry • Working aloft • Working over the side • Working at height • Launching and recovering tenders		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	• Using chemicals • Using power tools g. Can demonstrate knowledge of the sources of information available for chemicals that are potentially hazardous when used or carried onboard h. Can explain the importance of safety briefings i. Can explain the importance of fire prevention on board and the content and completion of fire fighting training exercises 3. Role and responsibility of the Safety Officer a. Can explain the requirement for and importance of safety meetings b. Can discuss the requirements for practical aspects of safety inspections c. Can explain the importance of keeping records d. Can explain the duties and powers of the Safety Officer \4. Reporting of unsafe practices and incidents a. Can explain the requirement for near miss reporting b. Can demonstrate an understanding of accident investigation c. Can explain the action required on encountering an unsafe operation d. Can explain the importance of rectifying and eliminating unsafe conditions and potential hazards 5. principles of planning work activities, setting objectives and priorities to ensure requirements are met a. Can discuss the importance of onboard working relationships b. Can explain the importance of crew resource management		

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	c. Can explain the strategies for encouraging effective working relationships		
Maintain safety and security of the ship's crew and passengers and the operational condition of life-saving, fire-fighting and other safety systems	*Thorough knowledge of life-saving appliance regulations (International Convention for the Safety of Life at Sea)* *Organisation of fire drills and abandon ship drills* • Can define and plan strategic procedures in event of an emergency • Can explain the organisation and benefits of drills, musters and other emergency training • Can explain the actions necessary when preparing to abandon ship, and when abandoning ship *Maintenance of operational condition of life-saving, fire-fighting and other systems* *Actions to be taken to protect and safeguard all persons on board in emergencies* • Can discuss crowd control and the handling of passengers and personnel • Can explain the risk of precipitated abandoning of the vessel *Actions to limit damage and salve the ship following a fire, explosion collision or grounding* • Can discuss the possible effect of emergency action on the external environment	Examination and assessment of evidence obtained from practical instruction and approved in-service training and experience	Procedures for monitoring fire-detection and safety system ensure that all alarms are detected promptly and acted upon in accordance with established emergency procedures
Develop emergency and damage control plans and handle	*Preparation of contingency plans for response to emergencies* • Can explain the practical	Examination and assessment of evidence obtained from approved in-service training and	Emergency procedures are in accordance with the established plans for emergency situations

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
emergency situations	use of contingency plans • Can discuss the allocation of resources, and emergency duties to teams and individual *Ship construction' including damage control* *Methods and aids for fire prevention, detection and extinction* *Functions and use of life-saving appliances*	experience	
Use of leadership and managerial skill	Knowledge of shipboard management and training knowledge of related international maritime conventions and recommendations, and national legislation Ability to apply task and workload management, including: .1 planning and co-ordination .2 personnel assignment .3 time and resource constraints .4 prioritisation Knowledge and ability to apply effective resource management: .1 allocation, assignment and prioritisation of resources .2 effective communication on board and ashore .3 decisions reflect consideration of team experiences .4 assertiveness and leadership, including motivation .5 obtaining and maintaining awareness	Examination and assessment of evidence obtained from one or more of the following: .1 approved training .2 approved in-service experience .3 approved simulator training	The crew are allocated duties and informed of expected standards of work and behaviour in a manner appropriate to the individuals concerned Training objectives and activities are based on current competence and capabilities and operational requirements Operations are demonstrated to be in accordance with applicable rules Operations are planned and resources are allocated as needed in correct priority to perform necessary tasks Communication is clearly and unambiguously given and received Effective leadership behaviours are demonstrated Necessary team member(s) share accurate understanding

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	Knowledge and ability to apply decision-making techniques .1 situation and risk assessment .2 identify and generate options .3 selecting course of action .4 evaluation of outcome effectiveness Development, implementation, and oversight of standard operating procedures		of current and predicted vessel state and operational status and external environment Decisions are most effective for the situation Operations are demonstrated to be effective and in accordance with applicable rules
Organise and manage the provision of medical care on board	A thorough knowledge of the use and contents of the following publications: .1 International Medical Guide for Ships or equivalent national publications .2 medical section of the International Code of Signals .3 Medical first Aid Guide for Use in accident Involving Dangerous Goods	Examination and assessment of evidence obtained from approved training	Actions taken and procedures followed correctly apply and make full use of advice available