COMPETENCY MAPPING	
STCW Table:	**Table A – II / 2**
Title:	**Specification of minimum standard of competence masters and chief mates on ships of 500 gross tonnage or more**
Guidance Notes (Scoring)	
Terms	**Description**
Reward	Earned points, an integer within the range of 0 to 100. The default value is 0.
Penalty	Penalty points, an integer within the range of 100 to 0. The default value is 100.
Single	A rule is triggered in the scenario only once: the first time the conditions occur.
Circular	A rule is triggered every time the conditions occur.
Time	Time dependency ruling
Weight	Multiplier of a trainee's level of competency
Levels of Simulation	
Familiarization	Familiar with the equipment, layout procedures, and routine task.
Operational	The task relates to the inputs and outputs and their relationship and has to do with the performance of a function.
Functional	The task relates to the functions or activities performed by the system without reference to which of the elements of the system perform those functions.
Management	Relates to the management of the combination of systems to perform a given job.
Communication	Relates to effective communication between human resources to report, get feedback, or to execute a task.
Emergency	Task performed in circumstances where there is variation or deviation from an expected scenario or situation.
Crisis	Task performed when the emergency has developed into a crisis.

COMPETENCY MAPPING

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
FUNTION 1		**NAVIGATION AT THE MANAGEMENT LEVEL**						
C1	**C1** **Plan a voyage and conduct navigation**	**C1.1** **Voyage planning and navigation for all conditions by acceptable methods of plotting oceans tracks, taking into account:** .1 restricted waters .2 meteorological conditions .3 ice .4 restricted visibility .5 traffic separation schemes .6 vessel traffic ervice (VTS) .7 areas of extensive tidal effects	Approved a voyage plan using: 1. Great Circle Sailing 2. Mercator Sailing	Voyage plan by using Great Circle Sailing contains complete information;	The voyage plan using Great Circle Sailing contains the following: a. Courses plotted on the appropriately scaled charts noting the ETA at each way point, including the final way point; b. Courses and distances between way points, which were correctly calculated and indicated on the charts; c. The most direct route that avoids all hazards to navigation by the margin of safety of not less than 3.0nm d. Areas of all required speed changes; e. Minimum under keel clearances in critical areas; f. Positions requiring a change of machinery status;	Checklist	Management	Full Mission Stimulator and Mini Bridge

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
					g. Way point of all course changes; h. Methods and frequency of position fixing, including areas requiring the highest accuracy; i. Positions and radio frequencies or channels where port authorities, pilots, and VTS services must be notified are marked on the relevant chart; j. State of the tide and currents at the times of departure and transit were determined; and k. A contingency plan - emergency anchoring position l.			
				Voyage plan by using Mercator Sailing contains complete information;	The voyage plan using Mercator Sailing contains the following: a. Courses plotted on the appropriately scaled charts			

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					noting the ETA at each way point, including the final way point; b. Courses and distances between way points, which were correctly calculated and indicated on the charts; c. The most direct route that avoids all hazards to navigation by the margin of safety of 3.0 nm; d. Areas of all required speed changes; e. Minimum under keel clearances in critical areas; f. Positions requiring a change of machinery status; g. Way point of all course changes; h. Methods and frequency of position fixing, including areas requiring the highest accuracy; i. Positions and radio frequencies or channels where port authorities, pilots, and VTS services must be notified are marked on the relevant chart;			

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
					j. State of the tide and currents at the times of departure and transit were determined; and k. A contingency plan - emergency anchoring position			
			Approved a voyage plan using Great Circle Sailing	Plan a great circle sailing	Utilize great circle sailing in which the route contains: 1. Initial course, which is within ± 1.0° 2. Total distance, which is within 1.0 nm 3. Position of the vertex, which is within 1 nm 4. Positions of points along the great circle at intervals of 10 degrees which are within 1.0 nm	Penalty/ Reward	Management	Full Mission Simulator and mini bridges
			Approved a voyage plan using Mercator sailing	Plan a Mercator sailing	1. Initial course is within ± .5° of the assessor's solution; and 2. Total distance is within 1 nm of the assessor's solution.	Penalty/ Reward	Management	Full Mission Simulator and mini bridges

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		C1.2 Routing in accordance with the General Provisions on Ship's Routeing	Approved a voyage plan using an electronic navigational equipment	Utilization of electronic navigational equipment for voyage planning	Use Global Positioning System/ECDIS in passage planning where: 1. Way points are correctly determined entered, and saved; 2. Route is correctly entered and saved; and 3. Great circle or rhumb line legs are designated correctly.	Penalty/ Reward	Management	Full Mission Simulator and mini bridges
		C1.3 Reporting in accordance with the General principles for Ship Reporting Systems and with VTS procedures	Approved the reporting requirements of ISM, JASREP and AMVER	Participation in the reporting requirements of ISM, JASREP and AMVER	Send at least 2 of the following reports as required such as: a. noon report b. departure report c. sailing plan d. deviation report e. arrival report Send at least 2 of the reports to a VTS such as:	Penalty/ Reward	Management	Full Mission Simulator and mini bridges

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
					a. ship's particulars and other information as required; b. defect report if there is any; c. ETA to the next reporting point as required; d. next port of call; e. ETA to the destination; and f. number of crew			
C2	**Determine position and the accuracy of resultant position fix by any means**	**C2.1 Position determination in all conditions:** .1 by celestial observations	This KUP is demonstrated by successfully passing the theoretical examination.					
		.2 by terrestrial observations, including the ability to use appropriate charts, notices to mariners and other publications to assess the	At the end of the assessment, the candidate must be able to appraise the accuracy of terrestrial observations	Appraisal of the accuracy of the resulting fix obtained by terrestrial observation is within the acceptable levels	Appraise the accuracy of the fix which was obtained by the following: 1. Radar bearing and range 2. Three (3) Radar ranges	Penalty/ Reward	Management	

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		accuracy of the resulting fix.						
		.3 using modern electronic navigational aids, with specific knowledge of their operating principles, limitations, sources of error, detection of misrepresentation of information and methods of correction to obtain accurate position fixing.	At the end of the assessment, the candidate must be able to appraise the accuracy of the position obtained from modern electronic navigational aids	Utilization of modern electronic navigational aids Appraisal on the accuracy of the position obtained from modern electronic navigational aids	Use GPS to determine ships position where: Appraise the accuracy of the position obtained from the following modern electronic navigational aids: 1. correct WGS datum of GPS; 2. comparison of visual bearing and electronic bearing obtained from Radar ARPA; 3. comparison of radar range and VRM from the ECDIS from a fix object.	Penalty/ Reward	Management	Full Mission Simulator and mini bridges
C3	**Determine and allow for compass errors**	**C3.1 Ability to determine and allow errors of the magnetic**						

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		and gyro-compass	This KUP is demonstrated by successfully passing the theoretical examination.					
		C3.2 Knowledge of the principles of magnetic and gyro-compass						
		C3.3 An understanding of systems under the control of the master gyro and a knowledge of operation and care of the main types of gyro-compass						
C4	**Coordinate search and rescue operations**	**C4.1 A thorough knowledge of and ability to apply the procedures contained in the**	At the end of the assessment, the candidate must be able to apply the procedures contained in the International	Application of the procedures contained in the International Aeronautical and Maritime Search and	Coordinate with the Rescue Coordination Center by taking actions as follows: Apply the International Aeronautical and Maritime Search and Rescue	Penalty/ Reward	Management	Full Mission Simulator and mini bridge

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual	Aeronautical and Maritime Search and Rescue (IAMSAR) Manual	Rescue (IAMSAR) Manual	(IAMSAR) procedures by referring to the following methods: • refer to vessel's search and rescue plan; • provide information to and coordinate all SAR operations facilities on the scene; • modify the search and rescue plan as dictated by on scene situation;			
C5	**Establish watch keeping arrangement and procedures**	**C5.1 Thorough knowledge on the content, application and intent of the International Regulations for Preventing Collisions at Sea, 1972, as amended**	This KUP is demonstrated by successfully passing the theoretical examination.					

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		Thorough knowledge of the content application and intent of the principles to be observed in keeping a navigational watch	Ability to establish watch keeping arrangement and procedures and apply the intent of the principles to be observed in keeping a navigational watch and maintain safe navigation through the use of information from navigation equipment and systems to assist command decision making	Establishment of watch keeping arrangement and procedures with international regulations and guidelines to ensure safety of navigation, protection of the marine environment, and safety of the ship and persons on board	Ensure that the principles of keeping a navigational watch is established such as: 1. maintaining proper lookout 2. composition of navigational watch is adequate 3. taking over the watch 4. requirement of rest hours period	Checklist	Management	Full Mission Simulator and mini bridge
C6	**Maintain safe navigation through the use of information from navigation equipment**	**C6.1 An appreciation of system errors and thorough understanding of the operational aspects of**	This KUP is demonstrated by successfully passing the theoretical examination.					

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
	and systems to assist command decision making	**navigational systems**						
		C6.2 Blind pilotage planning	At the end of the assessment, the candidate must be able to ensure the compliance with relevant rules of the International Regulation for Preventing Collisions at Sea, during restricted visibility	Compliance with relevant rules of the International Regulation for Preventing Collisions at Sea, during restricted visibility	Ensure compliance of International Regulation for Preventing Collisions at Sea, in the anticipation of restricted visibility by: 1. Setting proper stabilized motion display 2. Correct adjustment of: • sea clutter • gain • rain clutter timescale of vectors	Penalty/ Reward	Management	Full Mission Simulator and mini bridge

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		C6.3 Evaluation of navigational information derived from all sources, including radar and ARPA, in order to make and implement command decisions from collision avoidance and for directing the safe navigation of the ship	At the end of the assessment, the candidate must be able to appraise navigational information derived from all sources, including radar and ARPA, in order to make and implement command decisions from collision avoidance	Appraisal of navigational information derived from all sources, including radar and ARPA, in order to make and implement command decisions from collision avoidance	Appraise the following situations derived from radar and ARPA in the implementation of command decisions for collision avoidance: 1. Head on 2. Crossing 3. Overtaking	Penalty/ Reward	Management	Full Mission Simulator and mini bridge
		C6.4 The interrelationship and optimum use of all navigational data available for conducting navigation	This KUP is demonstrated by successfully passing the theoretical examination.					

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
C7	**Maintain the safety of navigation through the use of ECDIS and associated navigation systems to assist command decision making**	**C7.1 Management of operational procedures, system files and data, including:** .1 Manage procurement, licensing and updating of chart data and system software to conform to establish procedures	At the end of the assessment, the candidate must be able to manage procurement, licensing and updating of chart data and system software	Establishment of the operational procedures for using ECDIS	Follow at least 4 procedures on the procurement of chart as follows: a. After carefully studying the route plan, under ENC/AVCS select the chart as required from the 6 categories b. Send request to the chart distributor by selecting the button" Add selected products to the basket" c. Click pop up menu "Create folder" d. Once the order is successfully created an Order Output Summary is generated - print the output summary for your file e. Send email to the nominated chart agent including the output file as attachment f. AVCS/ENC permits will then be supplied to your vessel g. On receiving the permit it is put into the ECDIS	Penalty/ Reward	Management/ Operational	Full Mission Simulator and mini bridge

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		.2 system and information updating, including the ability to update ECDIS system version in accordance with vendor's product development	At the end of the assessment, the candidate must be able to manage ECDIS system and update information in accordance with vendor's product development	Management of licensing and updating of chart data and system software	Manage licensing and updating of chart data and system software to conform with established procedures as follows: a. Insert CD in ECDIS CD ROM b. Select chart menu c. Choose load and update charts d. Define the location of the CD ROM and select the load button. The charts will then start to load into the ECDIS	Penalty/ Reward	Management / Operational	Full Mission Simulator and mini bridge
		.3 create and maintain system configuration and backup files	At the end of the assessment, the candidate must be able to create and maintain system configuration and backup files	Creation of back up files and maintain system configuration	Create and maintain system configuration and backup files as follows: a. Configure the following parameters appropriately: • Heading, • COG Vector • HDG Vector • Ship by contour or symbol • Align by HDG	Penalty/ Reward	Management/ Operational	Full Mission Simulator and mini bridge

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
					• Course/Leg/Speed on • XTD on • Radius on • WPT Names on b. Ensure that the Main Chart Panel is configured correctly by checking the following: • Appropriate level of data is available for the execution of navigation; • The Pallette is configured to suit the condition; • The screen layout is appropriate; • All relevant panels such as route data are open and available. c. Ensure that the targets are configured correctly by checking: • The ARPA contacts on, Vectors On, Tracks off; • AIS contacts on, Vectors on, Tracks off; • CPA Alarm as necessary; • TCPA alarm as necessary.			

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
					d. Ensure that the preferred radar is selected by checking that the ARPA targets can be displayed e. Ensure that the system time is configured correctly by: • Checking the ship's time is correct on ECDIS • Checking that the correct Time Zone settings are applied f. Ensure that the Route Alarms are configured correctly by checking the following: • End of route alarm off • Out of XTD alarm on • Out of schedule alarm as necessary • Waypoint approach alarm on			

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
					• Off leg course alarm on g. Ensure that navigation aids are configured correctly by checking the following: • The predictor on and configured as necessary • The manual fixing is available			
		.4 create and maintain log files in accordance with establish procedures	At the end of the assessment, the candidate must be able to create and maintain log files	Creation of log files and maintain in accordance with established procedures	Create log files in accordance with at least 4 of the established procedures as follows: a. Attain skills and knowledge that ECDIS has a function of automatic voyage recording - electronic logbook that compose the voyage record and 24 hours logbook b. Reconstruct of past track taking into account the recording media, recording intervals, verification of database in use	Penalty/ Reward	Management/ Operational	Full Mission Simulator and mini bridge

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
					c. View records in the ship's log d. Change ships time e. Enter additional data f. Set up the automatic record time intervals g. Set the following parameters as it is not allowed to stop the logbook recording: • Automatic deletion - not less than 90 days • VDR parameters			
		.5 create and maintain route plan files in accordance with established procedures	At the end of the assessment, the candidate must be able to create and maintain route plan files	Creation of route plan files	Create route plan files in accordance with at least 3 of the following methods: a. directly on the chart using graphic tools b. by keyboard using the route plan window c. selecting existing way points. d. importing route from different ECDIS systems e. by downloading from GPS	Penalty/ Reward	Management/ Operational	Full Mission Simulator and mini bridge

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
				Maintenance of route plan files	Maintain route plan files in accordance with at least 3 of the following procedures: a. save on a hard disk once the route is created b. use the route along with other routes c. edit and modify the route d. unload the route e. delete the route if necessary f. lock and the safety of the route can be checked against dangers that may be present along the segments g. activate and use one route to monitor the vessel's position			
		.6 use ECDIS log-book and track history functions for inspection of system function, alarm settings and user responses	At the end of the assessment, the candidate must be able to use ECDIS log-book and track history functions for inspection of	Reference for future use the ECDIS log-book and track history functions for inspection of system	Use at least 2 of the ECDIS log-book and track history functions for inspection of system function, alarm settings and user responses as follows:	Penalty/ Reward	Management/ Operational	Full Mission Simulator and mini bridge

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
			system function, alarm settings and user responses	function, alarm settings and user responses	a. save the track in the database of routes and tracks on the hard disk b. select Save track from the pop-up menu c. save AIS tracks to be stored in the same database as the own ship d. save ARPA tracks			
		C7.2 Use ECDIS playback functionality for passage review, route planning and review of system functions	At the end of the assessment, the candidate must be able to use ECDIS playback functionality for passage review, route planning and review of system functions	Functionality of ECDIS playback system for passage review, route planning and review of system functions	Use ECDIS playback functionality for passage review, route planning and review of system functions as follows: a. Manage track recordings by replaying exactly the main events which occurred during the navigation b. Initiate replay by clicking on the Replay button in the Log window.	Penalty/ Reward	Management/ Operational	Full Mission Simulator and mini bridge
C8	**Forecast weather and oceanographic conditions**	**C8.1 Ability to understand and interpret a**						

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		synoptic chart and to forecast area weather conditions and information received by weather fax	This KUP is demonstrated by successfully passing the theoretical examination.					
		C8.2 Knowledge of the characteristics of various weather systems, including tropical revolving storms and avoidance of storm centers and the dangerous quadrants						
		C8.3 Knowledge of ocean current System						

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		C8.4 Ability to calculate tidal conditions						
		C8.5 Use all appropriate nautical publications on tides and currents						
C9	**Respond to navigational emergencies**	**C9.1 Precautions when beaching a ship**	At the end of the assessment the candidate must ensure the precautions to be done when beaching a ship	Application of the precautionary measures when beaching a ship	Ensure the following precautionary measures are taken into account when beaching a ship: 1. Purpose of beaching 2. The Chart of the area to be studied for a suitable spot 3. The tide tables are checked 4. The ballast tank are prepared 5. Trim is calculated	Checklist	Management	Full Mission Simulator and mini bridge

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		C9.2 Action to be taken if grounding is imminent, and after grounding	At the end of the assessment the candidate will be able to decide action if grounding is imminent, and after grounding	Decision and action is promptly identified to minimize the effects of any malfunction of the ships system if grounding is imminent, and after grounding	Ensure that the following are acted upon if grounding is imminent, and after grounding: Imminent grounding: a. Stop engine immediately b. Execute crash astern maneuver c. Take note of the time of the incident d. Sound general alarm After grounding: a. ascertain any internal damage, water intakes or leakages and watertight doors to be closed b. display appropriate light/shapes and sound signals c. take control of a possible pollution d. all stakeholders must be notified e. inform port authority of the incident	Checklist	Management	Full Mission Simulator and mini bridge

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
					f. record vessels position, date and time of the incident g. inform the company			
		C9.3 Refloating a grounded ship with and without assistance	At the end of the assessment the candidate will be able to take appropriate actions in re-floating a grounded ship with assistance	Actions to be taken to re-float a grounded ship with assistance	Refloat a grounded ship with assistance by the following tasks: a. Check sounding of all shipboard tanks b. Check sounding around the vessel c. Determine the nature of seabed d. Calculate the stability of the ship if it is intact basing from the result of soundings e. Notify owners f. Consider lightening the ship g. Consider ballasting/de-ballasting for trim adjustment h. Conclude salvage agreement with the principle of “No Cure, No Pay” i. Confirm the expiration point of salvage agreement (Date and Location) j. Record all events of the refloating operations	Penalty/ Reward	Management/ Operational	Full Mission Simulator and mini bridge

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
			At the end of the assessment the candidate will be able to take appropriate actions in re-floating a grounded ship without assistance	Actions to be taken in re-floating a grounded ship without assistance	Refloat a grounded ship without assistance by the following tasks: a. Check sounding of all shipboard tanks b. Check sounding around the vessel c. Determine the nature of seabed d. Calculate the stability of the ship if it is intact basing from the result of soundings e. Notify owners f. Consider lightening the ship g. Consider ballasting/deballasting for trim adjustment h. Use engine judging from the grounding condition and nature of sea bed i. Record all events of the refloating operations			
		C9.4 Action to be taken if collision is imminent and	At the end of the assessment the candidate will be able to take	Actions to be taken if collision is imminent	Take the following actions if collision is imminent:	Penalty/ Reward	Management/ Operational	Full Mission Simulator

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		following a collision or impairment of the watertight integrity of the hull by any cause	action if collision is imminent		a. Execute a hard over to starboard side, as appropriate b. Execute crash astern on the main engine, as appropriate c. Advice engineers of the imminent danger d. Standby to let go anchor if appropriate e. Inform all crew of the imminent danger			and mini bridge
			At the end of the assessment the candidate will be able to take action following a collision	Actions to be taken following a collision	Take the following actions following a collision: a. Advise engine room b. Send distress signal immediately c. Record important data d. Sound the alarms e. Assess the damage f. Take the soundings g. Take immediate action in case of damage h. Check for oil spills i. Refer to the emergency checklist in case of collision			

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
					j. Reach the nearest port if possible k. Abandon the ship (only if everything else failed)			
			At the end of the assessment the candidate will be able to take action following an impairment of the watertight integrity of the hull by any cause	Actions to be taken following an impairment of the watertight integrity of the hull by any cause	Take the following actions if watertight integrity is being impaired: a. Sound emergency stations alarm b. Close all watertight doors c. Stop engine d. Conduct muster to damage control station e. Refer to damage control booklet f. Prepare survival crafts and other lifesaving appliances g. Inform owners and all authorities concern			
		C9.5 Assessment of damage control	At the end of the assessment the candidate will be able to manage and lead the	Assessment of damage control	Assess damage control as follows:	Penalty/ Reward	Management/ Operational	Full Mission Simulator and mini bridge

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
			assessment of damage control		a. Calculate present effects of flooding on ship stability and stress b. Calculate pumping arrangement capability c. Refer to damage control booklet d. Pump out flooded spaces where possible			
		C9.6 Emergency steering	At the end of the assessment the candidate will be able to use emergency steering immediately	Usage of emergency steering	Use the emergency steering immediately in case the bridge hand steering and non-follow up system malfunctions: a. Disengage autopilot b. Engage emergency steering system c. Refer to emergency steering procedure posted d. Advise engineer officer on watch e. Maneuver as appropriate and take away off ship if safe to do so	Penalty/ Reward	Management/ Operational	Full Mission Simulator and mini bridge
		C9.7	At the end of the assessment the	Decisions to	Prepare the vessel for emergency towing following	Penalty/ Reward	Management/ Operational	Full Mission

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		Emergency towing arrangements and towing procedure	candidate will be able to decide and act with reference to the emergency towing arrangements and towing procedure	be made and steps to be taken to prepare the vessel for emergency towing	the decisions made and steps to be taken below: a. Prepare to receive a towing line; b. Order that the anchor and chain be lowered to the water or into the water as directed by the towing vessel c. Ensure the chain will not pay out until the towing vessel requests additional chain d. Lower a messenger line to the water line in case it is needed			Simulator and mini bridge
C10	**Manoeuver and handle a ship in all conditions**	**C10.1 Manoeuvring and handling a ship in all**	At the end of the assessment, the candidate must be able to	Manoeuver the vessel when approaching pilot stations	Maneuver the ship safely by proceeding at safe speed when embarking/	Penalty/ Reward	Management/ Operational	Full Mission Simulator

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		conditions, including: 1. maneuvers when approaching pilot stations and embarking or disembarking pilots, with due regard to weather, tide, head reach and stopping distances	maneuver the vessel when approaching pilot stations and embarking or disembarking pilots, with due regard to weather, tide, head reach and stopping distances	and embarking or disembarking pilots, with due regard to weather, tide, head reach and stopping distances	disembarking pilot to pilot station as follows: 1. Determine the force and direction of the wind and current; 2. Set courses to counter the effect of wind and current; 3. Use the agreed boarding/disembarking speed and rudder orders			and mini bridge
		.2 handling ship in rivers, estuaries and restricted waters, having regard to the effects of current, wind and restricted water on helm response	At the end of the assessment, the candidate must be able to handle the vessel safely in rivers, estuaries and restricted waters, having regard to the effects of current, wind and	Handle the vessel safely in rivers, estuaries and restricted waters, having regard to the effects of current, wind and restricted water on helm response	Handle the vessel safely in rivers, estuaries and restricted waters taking into account the following: 1. Determine the intended track of the vessel; 2. Determine the force and direction of the wind and current; 3. Set courses to counter the effect of wind and current to	Penalty/ Reward	Management/ Operational	Full Mission Simulator and mini bridge

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
			restricted water on helm response		maintain the ship on the intended track; and 4. Use appropriate speed and rudder orders to maintain the ship on the intended track during turns around points and bends in the river.			
		.3 application of constant-rate-of-turn techniques	At the end of the assessment, the candidate must be able to apply the constant-rate-of-turn techniques	Handle the vessel safely by applying the constant-rate-of-turn techniques	Apply the constant rate of turn techniques as follows: 1. Determine the radius of the turn; and 2. Apply the correct amount of rudder to maintain the constant radius of turn with no more than two adjustments of less than 5.0 degrees each.	Penalty/ Reward	Management/ Operational	Full Mission Simulator and mini bridge
		.4 manoeuvering in shallow water, including the reduction in under-keel clearance caused by	At the end of the assessment, the candidate must be able to maneuver the vessel in shallow water, including the reduction in under-keel	Handle the vessel safely in shallow water, including the reduction in under-keel clearance caused by	Handle the vessel safely in shallow water as follows: 1. Determine the under-keel clearance; 2. Determine the maximum speed allowable to keep the vessel from squatting and touching bottom; and	Penalty/ Reward	Management/ Operational	Full Mission Simulator and mini bridge

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		squat, rolling and pitching	clearance caused by squat, rolling and pitching	squat, rolling and pitching	3. adjust the speed of the vessel to keep the vessel on an even trim while on straight courses and during turns.			
		.5 interaction between passing ships and between own ship and nearby banks (canal effect)	At the end of the assessment, the candidate must be able to handle the vessel safely when passing close to other vessel and nearby banks	Safety in handling the vessel when passing close to other ship and nearby banks	Handle the ship safely using the following techniques: 1. Agree on a passing arrangement with the meeting vessel; 2. Apply appropriate rudder in the direction and amount to anticipate and react to the pressure of interacting bow waves, stern suction and bank effect; 3. Apply appropriate rudder direction and amount to remain in the channel.	Penalty/ Reward	Management/ Operational	Full Mission Simulator and mini bridge
		.6 berthing and unberthing under various conditions of wind, tide and current with	At the end of the assessment, the candidate must be able to berth and unberth the vessel under various conditions	Demonstration of maneuver to berth and unberth the vessel under various conditions of	Demonstrate docking maneuver as follows: Planning: Determine the: a. Depth of water at the berth for the state of the tide;	Penalty/ Reward	Management/ Operational	Full Mission Simulator and mini bridge

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		and without tugs to be used	of wind, tide and current with and without using tugs	wind, tide and current with and without using tugs	b. Strength and direction of the current for the route to the berth and at berth; c. Direction and speed of the wind; d. Appropriate side to berth on; and e. Appropriate courses and maneuvers for the approach to the berth. Approaching: Approach the dock at an appropriate course and speed required by the wind and current that allows the vessel to maintain its heading and allows it to be stopped before allision. Docking: a. Uses the engines and lines, as necessary, to stop the vessel or move it into final position; b. Properly pay out the mooring lines; and			

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
					c. Tighten up all slack lines until the vessel is completely secured alongside.			
		.7 ship and tug interaction	At the end of the assessment, the candidate must be able to detect the ship and tug interaction.	Detection of ship and tug interaction	Detect the ship and tug interaction taking into account the following to counteract the hydrodynamic effect: 1.the drift angle of the tug 2.the lateral distance between the tug and ship 3.course to maintain 4.speed to maintain			
		.8 use of propulsion and manoeuvring systems	At the end of the assessment, the candidate must be able to operate propulsion and manoeuvring systems properly	Operation of remote controls of propulsion and manoeuvring systems	Operate safely the engine telegraph and manoeuvring system appropriate to the prevailing circumstances taking into account the following: 1. Dead slow ahead and corresponding speed 2. Slow ahead and corresponding speed			

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
					3. Half ahead and corresponding speed 4. Full ahead and corresponding speed 5. Full away of passage and corresponding speed 6. Dead slow astern and corresponding speed 7. Slow astern and corresponding speed 8. Half astern and corresponding speed 9. Full astern and corresponding speed 10. Response time from full sea speed to crash astern			
		.9 choice of anchorage; anchoring with one or two anchors in limited anchorages and factors involved in determining the length of anchor cable	At the end of the assessment, the candidate must be able to demonstrate anchoring the vessel	Demonstration of anchoring the vessel	Demonstrate anchoring the vessel by performing the following: In the planning phase, determine the following: a. Depth of water; b. Type of bottom; c. Wind and current; d. Bottom obstructions; e. Room to swing;			

Competence	KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
				f. Place to anchor; g. Courses and maneuvers to the anchor site; h. Desired final heading; i. Expected weather for the time at anchor; and j. Whether tug assistance will be required. In the approach phase, make sure that the vessel does not pass windward of or upcurrent of any anchored ship or hazard to navigation. In the placement phase, ensure that: a. The vessel approaches anchor site at a safe speed; b. The vessel's position is checked using multiple sources; c. Engines are used appropriately to stop the ship and then gain minimum sternway; d. The anchor is dropped as the vessel begins to gain			

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
					sternway; and e. A length of chain appropriate for the water depth is slowly paid out. In the fetching up phase, ensure that the vessel is brought up to the chain within the desired area and at the appropriate distance from other vessels.			
		.10 dragging anchor; clearing fouled anchors	At the end of the assessment, the candidate must be able to handle the vessel safely when dragging anchor and clearing fouled anchors	Safety in handling the ship when anchor is dragging and clearing fouled anchor	Handle the ship safely when anchor is dragging and clearing fouled anchor by the following tasks: 1. paying out at least two additional cables on the anchor chain 2. use the engine propulsion to ease the tension on the anchor chain 3. heave up anchor and proceed to sea 4. release the bitter end for the safety of the vessel and crew			

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		.11 dry-docking, both with and without damage	This KUP is demonstrated by successfully passing the theoretical examination.					
		.12 management and handling of 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	This KUP is demonstrated by successfully passing the theoretical examination.					

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		.13 precautions in manoeuvring to launch rescue boats or survival craft in bad weather	This KUP is demonstrated by successfully passing the theoretical examination.					
		.14 methods of taking on board survivors from rescue boats and survival craft	This KUP is demonstrated by successfully passing the theoretical examination.					
		.15 ability to determine the manoeuvring and propulsion characteristics of common	At the end of the assessment, the candidate must be able to determine the manoeuvring and propulsion	Determination of the maneuvering and propulsion characteristics of common types of ships,	Handle the ship safely under various conditions of loading and weather to determine the maneuvering and propulsion characteristics of common types of ships, with special reference to the following:	Penalty/ Reward	Management/ Operational	Full Mission Simulator and mini bridge

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		types of ships, with special reference to stopping distances and turning circles at various draughts and speeds	characteristics of common types of ships, with special reference to stopping distances and turning circles at various draughts and speeds	with special reference to stopping distances and turning circles at various draughts and speeds	1. advance; 2. transfer; 3. tactical diameter 4. drift angle 5. pivot point 6. final diameter 7. stopping distance			
		.16 importance of navigating at reduced speed to avoid damage cause by own ship's bow wave and stern wave	At the end of the assessment, the candidate must be able to determine the importance of navigating at reduced speed to avoid damage cause by own ship's wake	Determination of safe speed to avoid damage cause by own ship's wake	Navigate the ship safely to comply with port regulation regarding speed limit within the area a) speed to maintain ___knots	Penalty/ Reward	Management/ Operational	Full Mission Simulator and mini bridges
		.17 practical measures to	At the end of the assessment, the	Determination of the practical	Determine the practical measures when navigating on	Penalty/ Reward	Management/ Operational	Full Mission

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		be taken when navigating on or near ice or in conditions of ice accumulation on board	candidate must be able to determine the practical measures to be taken when navigating on or near ice or in conditions of ice accumulation on board	measures when navigating on or near ice or in conditions of ice accumulation on board	or near ice or in conditions of ice accumulation on board as follows: 1. obtain information about ice that may be located on or in the vicinity of the intended track; 2. precautions to follow when navigating near ice; 3. precautions when navigating in thick ice; 4. Master's obligation to report conditions that are causing severe ice accumulations; 5. dangers of reduced stability; 6. other dangers of ice accumulation; and 7. damage to exposed surfaces and equipment conditions that cause ice accumulation to the ship's topside, superstructure, and rigging.			Simulator and mini bridges

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		.18 use of, and manoeuvring in and near, traffic separation schemes and in vessel traffic service (VTS) areas	At the end of the assessment, the candidate must be able to maneuver the vessel in and near, traffic separation schemes and in vessel traffic service (VTS) areas	Maneuverability of the vessel to be performed in and near, traffic separation schemes and in vessel traffic service (VTS) areas	Maneuver the vessel in and near, traffic separation schemes and in vessel traffic service (VTS) areas that includes: 1. expected behavior of vessels entering, transiting, and exiting a traffic separation scheme by quoting Rule 10 of the current COLREGS; 2. apply the Rules of the Road when transiting a traffic separation scheme; and 3. report to the Vessel Traffic System (VTS) the following: • Information required to be initially reported; • Location and/or times where the reports must be made; and • Information that must be reported when exiting the VTS	Penalty/ Reward	Management/ Operational	Full Mission Simulator and mini bridges

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
C11	Operate remote controls of propulsion plant and engineering systems and services	C11.1 Operating principles of marine power plants	This KUP is demonstrated by successfully passing the theoretical examination.					
		C11.2 Ships' auxiliary machinery						
		C11.3 General knowledge of marine engineering terms						

COMPETENCY MAPPING

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
FUNTION 2		**CARGO HANDLING AND STOWAGE AT THE MANAGEMENT LEVEL**						
C12	**Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes**	**C12.1 Knowledge and ability to apply relevant international regulations, codes and standards in concerning the safe handling, stowage, securing and transport of cargoes**	This KUP is demonstrated by successfully passing the theoretical examination.					

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		C12.2 Knowledge of the effect on trim and stability of cargoes and cargo operations	This KUP is demonstrated by successfully passing the theoretical examination.					
		C12.3 Use of stability and trim diagrams and stress-calculating equipment, including automatic data-based (ADB) equipment, and knowledge of loading cargoes and ballasting in order to keep hull stress within acceptable limits	**C12.3 At the end of the assessment, the candidate must be able to develop cargo plan and calculate the stress.**	Development of cargo stowage plan and cargo operations are in accordance with established procedures and legislative requirements	Create a cargo plan that includes the following: 1. Stability and trim calculations; 2. Bending moment and stress calculations; 3. Application of appropriate procedures, rules and regulations regarding the loading and stowage of incompatible cargoes; 4. Application of appropriate procedures, rules and regulations regarding the stowage locations of easily damaged and/or contaminated cargoes;			

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
					5. Rigging of appropriate cargo equipment for the loading and/or discharge of cargo; 6. Securing of the loaded cargo; 7. Listing of safety procedures to be followed during the cargo operation; 8. Collecting and collating the appropriate cargo paperwork; and 9. Distribute the cargo and find the values of the following: a. Draft forward b. Draft aft c. Trim d. SF e. BM Develop and execute a loading/unloading plan for a cargo of: 1. *Grain with SF 42*			

Competence	KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
				Hold no. 1 =_____MT Hold no. 2 =_____MT Hold no. 3 =_____MT Hold no. 4 =_____MT Hold no. 5 =_____MT *2. Grain with SF 48* Hold no. 1 =_____MT Hold no. 2 =_____MT Hold no. 3 =_____MT Hold no. 4 =_____MT Hold no. 5 =_____MT Hold no. 6 =_____MT Hold no. 7 =_____MT and find the following: a. Draft forward b. Draft aft c. Trim d. Allowable heeling moment e. Actual SF f. Actual BM g. Allowable SF h. Allowable BM			

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
					Develop and execute a loading/unloading plan for a cargo of: *3. Iron ore fines* Hold no. 1 =_____MT Hold no. 2 =_____MT Hold no. 3 =_____MT Hold no. 4 =_____MT Hold no. 5 =_____MT Hold no. 6 =_____MT Hold no. 7 =_____MT Hold no. 8 =_____MT Hold no. 9 =_____MT and find the following: i. Draft forward j. Draft aft k. Trim l. Actual SF m. Actual BM n. Allowable SF o. Allowable BM			

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
					Load/Unload the vessel in accordance with the approved loading/unloading plan in order to arrive at discharge port with an even keel (SW) draft basis a steaming time of 12 days at a speed of 14.5 knots and fuel oil consumption of abt 55 MT/day Diesel oil 2.5 MT/day, Fresh Water 20MT/day Use No. 7 WBT (P/S) for trimming <u>Fuel of consumption:</u> 1. FO TK 1(C)____MT 2. FO TK 2(C)____MT 3. FO TK 3(P)____MT 4. FO TK 3(S)____MT <u>Diesel Oil</u> D. O. T. (S)____MT			

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
					Fresh Water____MT Arrival Draft Forward _____ M (+/-0.01%) Arrival Draft Aft_____M (+/-0.01%)			
		C12.4 Stowage and securing of cargoes on board ships, including cargo-handling gear and securing and lashing equipment	This KUP is demonstrated by successfully passing the theoretical examination.					
		C12.5 Loading and unloading operations, with special regard to the transport of cargoes identified in the Code of Safe Practice for Cargo Stowage and Securing	This KUP is demonstrated by successfully passing the theoretical examination.					

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		C12.6 General knowledge of tanker operations	This KUP is demonstrated by successfully passing the theoretical examination.					
		C12.7 Knowledge of the operational and design limitations of bulk carriers	This KUP is demonstrated by successfully passing the theoretical examination.					
		C12.8 Ability to use all available shipboard data related to loading, care and unloading of bulk cargoes	This KUP is demonstrated by successfully passing the theoretical examination.					
		C12.9 Ability to establish procedures for safe cargo handling in accordance with	This KUP is demonstrated by successfully passing the theoretical examination.					

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		the provisions of the relevant instruments such as IMDG Code, IMSBC Code, MARPOL 73/78 Annexes III and V and other relevant information						
		C12.10 Ability to explain the basic principles for establishing effective communications and improving working relationship between ship and terminal personnel	This KUP is demonstrated by successfully passing the theoretical examination.					
C13	Assess reported defects and damage to	C13.1 Knowledge of the limitations on strength of						

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
	cargo spaces, hatch covers and ballast tanks and take appropriate action	the vital constructional parts of a standard bulk carriers and ability to interpret given figures for bending moments and shear forces	This KUP is demonstrated by successfully passing the theoretical examination.					
		C13.2 Ability to explain how to avoid the detrimental effects on bulk carriers of corrosion fatigue and inadequate cargo handling						
C14	Carriage of dangerous goods	C14.1 International regulations, standard, codes and recommendation						

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		s on the carriage of dangerous cargoes including the International Maritime Dangerous Goods (IMDG) Code and the International Maritime Solid Bulk Cargoes (IMSBC) Code **C14.2 Carriage of dangerous, hazardous, and harmful cargoes; precautions during loading and unloading and care during the voyage**	This KUP is demonstrated by successfully passing the theoretical examination.					

COMPETENCY MAPPING

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
FUNTION 3		**CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON-BOARD AT THE MANAGEMENT LEVEL**						
15	**Control trim, stability and stress**	**C15.1 Understanding of fundamental principles of ship construction and theories and factors affecting trim and stability and measures necessary to preserve trim stability** **C15.2 Knowledge of the effect on trim stability of a ship in the event of damage to and consequent**	This KUP is demonstrated by successfully passing the theoretical examination.					

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		loading of a compartment and countermeasures to be taken **C15.3 Knowledge of IMO recommendations concerning ship stability**						
C16	**Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment**	**C16.1 Knowledge of international maritime law embodied in international agreements and conventions** **C16.2 Regard shall be paid especially to the following subjects:** .1 certificates and other documents	This KUP is demonstrated by successfully passing the theoretical examination.					

Competence	KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
	required to be carried on board ships by international conventions, how they may be obtained and their period of validity .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,						

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		1974, as amended .4 responsibilities under the International Convention for the Prevention of Pollution from Ships, as amended						
		.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						

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		marine environment by ships						
		.8 national legislation for implementing international agreements and convention						
C17	**Maintain safety and security of the ship's crew and passengers and the operational condition of life-saving, firefighting and other safety systems**	**C17.1 Thorough knowledge of life-saving appliance regulations (International Convention for the Safety of Life at Sea)**	This KUP is demonstrated by successfully passing the theoretical examination.					
		C17.2 Organization of fire drills and						

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		abandon ship drills						
		C17.3 Maintenance of operational condition of life-saving, fire-fighting and other safety systems						
		C17.4 Actions to be taken to protect and safeguard all persons on board in emergencies						
		C17.5 Actions to limit damage and salve the ship following a fire, explosion, collision or grounding						

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
C18	Develop emergency and damage control plans and handle emergency situations	C18.1 Preparation of contingency plans for response to emergencies	This KUP is demonstrated by successfully passing the theoretical examination.					
		C18.2 Ship construction, including damage control						
		C18.3 Methods and aids for fire prevention, detection and extinction						
		C18.4 Function and use of life-saving appliances						
C19	Use of leadership	C19.1 Knowledge of shipboard						

Competence	KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
	and managerial skill	**personnel, management and training**	This KUP is demonstrated by successfully passing the theoretical examination.				
		C19.2 A knowledge of related international maritime conventions and recommendations, and national legislation					
		C19.3 Ability to apply task and workload management, including .1 planning and co-ordination .2 personnel assignment .3 time and resource constraints .4 prioritization	At the end of the assessment, the candidate must have developed the ability to apply task and workload managementt	Ability to apply task and workload management .	Apply the following BRM roles: 1. Assigning BRM roles; 2. Monitoring the vessel's progress;	Rubrics	Management/ Operational	Full Mission Simulation

Competence	KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
	C19.4 Knowledge and ability to apply effective resource management; **.1 allocation, assignment and prioritization of resource** **.2 effective communication on board and ashore** **.3 decision reflect consideration of tea, experiences** **.4 assertiveness and leadership, including motivation** **.5 obtaining and maintaining situation awareness**	At the end of the assessment, the candidate must have the knowledge and ability to apply effective resource management	Knowledge and ability to apply effective resource management	3. Communicating clearly and effectively; 4. Controlling passage for safe navigation and collision avoidance; and, 5. Ensuring that all team members use all relevant navigational data.			

Competence	KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
	C19.5 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**	At the end of the assessment, the candidate must have the knowledge and ability to apply decision-making techniques	Knowledge and ability to apply decision-making techniques	1. Brief the team on the situation, the approach on how to make remedy on the emergency, and the procedures to be executed; 2. Delegate tasks to each of the crew briefing about any special procedures or events that may concern them; 3. Check the assigned members of the team to ensure their safety by using personal protective equipment (PPE) correctly and appropriately; 4. Check the assigned team members to ensure that they have in hand any available equipment that will be needed to accomplish both the team and individual task;	Rubrics	Management/ Operational	Full mission Simulation

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
					5. Execute the plan to handle the emergency situation; and 6. Participates in the debriefing phase			
		C19.6 Development, Implementation, and oversight of standard operating procedures	This KUP is demonstrated by successfully passing the theoretical examination.					
C20	**Organize and manage the provision of medical care on board**	**C20.1 A thorough knowledge of the use and contents of the following publication; .1 international medical guide for ships or equivalent**	**Organize and manage the provision of medical care on board shall be addressed by presenting valid COP in Medical Care (MECA)**					

Competence		KUP	Assessment Outcome	Performance Criteria	Performance Standard	Scoring Procedure	Level of Simulation	Class of Simulation
		national publications .2 medical section of the international code of signals .3 medical first aid guide for use in accidents involving dangerous goods						