



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
 Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@slt.net.lk

01. Watchkeeping and mooring operations (Total number of hours – 10.5 Hrs)

Theory - 08.0 Hrs

Practical - 02.5 Hrs

Ref No	<i>KNOWLEDGE, UNDERSTANDING AND PROFICIENCY</i>	<i>DURATION</i>	<i>COURSE NOTE REF. NO</i>
1.1	Contribute to a safe navigational watch		
1.1.1	Ability to understand orders and to communicate with the officer of the watch on matters relevant to watch keeping duties		
1.1.1.1	Describes the nautical terms used in bridge watch keeping		
1.1.1.2	States the nautical terms used during berthing/un-berthing operations and their meanings		
1.1.2	Procedures for the relief, maintenance and handover of a watch		
1.1.2.1	States that the watchkeeper shall contact the OOW when in doubt		
1.1.2.2	States that watch keepers must be well rested before coming to a watch		
1.1.2.3	States that the watchkeepers shall report to the watch at least 10-15 minutes before any watch		
1.1.2.4	Describes the hand over and taking over procedure of a bridge watch		
1.1.2.5	Describes the duties of a bridge watchkeeper		
1.1.3	Information required to maintain a safe watch		
1.1.3.1	Bridge watchkeeping		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
 Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

	a) Explain the procedure for keeping a proper lookout in order to maintain a margin of safety between own vessel and other traffic		
	b) Describes how to correctly identify risk of collision using compass bearings visually and by radar		
	c) Describes how to correctly identify that the vessel may be too close to land by radar, echo sounder and GPS		
	d) States the dangers of:		
	I. relying on radar instead of a visual lookout or attempting to interpret radar displays without proper training		
	II. operating radar without proper training		
	III. operating ECDIS (electronic chart) equipment without proper training		
	e) States the information required to maintain a safe bridge watch		
	f) Describes the following recommended safe watchkeeping practices:		
	i) watchkeepers to be experienced and capable		
	ii) precautions to be taken against fatigue		
	iii) numbers of watchkeepers to be increased at critical times		
	iv) radar to be used in addition to, and not instead of, a visual lookout		
	v) hazards associated with 'divided command' of lookouts		
	vi) lookout to include both sight and sound		
1.1.4	Local & International Regulations on Work & Rest Hours		
1.1.4.1	States the ILO & STCW requirements regarding the watchkeeping and rest hours		
1.1.4.2	Explains crew member how to maintain work and rest hours as per above requirements		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
 Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

1.1.5	Basic introduction to stress and fatigue		
1.1.5.1	explains stress and fatigue including its effect on human ability to concentrate on the job		
1.1.5.2	State what are the precautions to be taken to minimize stress and fatigue		
1.2	Contribute to berthing, anchoring and other mooring operations		
1.2.1	Working knowledge of the mooring system and related procedures, including:		
1.2.1.1	The function of mooring and tug lines and how each line functions as part of an overall system		
	a) with an aid of a diagram, show and name the mooring lines used at a berth		
	b) states the use of head ropes		
	c) states the purpose of fwd spring ropes		
	d) states the purpose of stern ropes		
	e) states the purpose aft spring ropes		
	f) state the purpose of breast ropes		
	g) describes the advantages/disadvantages of these ropes with varying horizontal angles with the ship's centre line		
	h) describes the advantages/disadvantages of these ropes with varying vertical angles		
	i) describes how to arrange mooring ropes on ships with large freeboards and small freeboards		
	j) explain the meaning of 'doubling up'		
	k) states the purpose of doubling up		
	l) states that the vessel shall be made fast with the number of lines ordered by the master		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
 Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

	m) states the purpose of tug lines		
	n) describes how tugs are made fast during various berthing and un-berthing situations		
	o) describes the movement of a vessel, when she is pulled/pushed with various angles by a tug		
1.2.1.2	The capacities, safe working loads, and breaking strengths of mooring equipment, including mooring wires, synthetic and fibre lines, winches, anchor windlasses, capstans, bits, chocks and bollards		
	a) defines the term Safe Working Load (SWL)		
	b) defines the term breaking strength		
	c) states that the SWL shall not be exceeded under any circumstances		
	d) state the precautions to observe when working with mooring ropes		
	e) state the dangers of misusing nylon ropes		
	f) state the precautions to observe when working with fibre and wire ropes		
	g) state the signs of wear and potential failure in fibre and wire ropes, including those in use		
	h) ability to use rat guards		
	i) describes the correct procedure of fasting a mooring rope to a bit		
	j) describes the correct procedure of fasting a mooring rope to a bollard		
1.2.1.3	The procedures and order of events for making fast and letting go mooring and tug lines and wires, including towing lines		
	a) order of events when making fast		
	i) demonstrates how to arrange heaving lines and how to throw them		
	ii) states that the heaving line shall be thrown to an area on the pier where there no people		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation

No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

	iii) states that the first line both at fwd and aft shall be sent ashore as soon as possible		
	iv) states that the propeller shall be kept clear when lowering the ropes and bridge shall be informed when it is not clear		
	v) states that the mooring ropes shall be kept flaked on deck before lowering to avoid delays (when lowering under power) and to avoid kinking of the ropes (when lowering ropes which are not coiled on a mooring winch		
	vi) describes the various hand signals used during berthing operations		
	vii)states to rig rat guards after the completion of berthing operation		
	viii) states that the ropes shall not be secured on surging drums. All the mooring ropes which are not connected to drums shall be secured on bollards		
	ix) states that the rope drums shall be on the breaks and must be disconnected from the mooring winches after making fast		
	x) describe the purpose of safety pins on the warping drum's engaging and dis-engaging level		
	xi) states that the dip trays shall be plug during a port stay		
	b) order of events during un berthing		
	i) describes how to prepare for departure stations		
	ii) states that the lines shall be let gone according to the orders given by the master		
	iii) states that the propeller to be kept clear and bridge shall be informed when it is not clear		
	iv)describe the safety precautions to be observed during departure stations		
	v) describes how to secure the stations for sea		
	vi)describe how to secure the stations for heavy weather		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
 Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

	c) order of events when handling tug lines		
	i) states that there shall be good communication between the ship's station and the tug		
	ii) states the precautions to be observed when taking tug's line onboard and when letting go		
	iii) states the precautions to be observed when giving a ship's line to the tug and when taking it onboard after letting go		
1.2.1.4	Safe mooring & unmooring practices including snap back zones		
	b) states the Safe mooring and unmooring practices		
	c) describes the snap back zones in forward and after mooring stations		
	d) identifies snap back zones		
	e) describes the dangers associated with snap back zone		
1.2.1.5	The procedures and order of events for the use of anchors in various operations		
	a) Describes the cable marking procedure		
	b) describes the procedures and order of events for the use of anchors in:		
	i) anchor		
	• letting go		
	• walk back		
	ii) weighing an anchor		
	iii) securing for sea		
	iv) warping		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

	b) State the occasions of releasing an anchor from the bitter end		
	c) Describe the procedure of detaching an anchor cable from a joining shackle		
	d) Describes the precautions to be taken in the stowage of chain cable and securing the anchors at sea		
	e) States the use of an anchor buoy		
1.2.2	Working knowledge of the procedures and order of events associated with mooring to a buoy or buoys		
1.2.2.1	State the occasions where vessels may be moored to a buoy or buoys		
1.2.2.2	Describe the procedure of making fast a vessel to mooring buoys at fwd and aft		
1.2.2.3	Describe the procedure of making fast of an anchor cable to a mooring buoy		
1.2.2.4	Describes the precautions to be observed when a vessel is moored to a buoy or buoys		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
 Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

02. Cargo work (Total number of hours – 10.5 Hrs)
Theory - 10.5 Hrs
Practical - 0.0

RefNo	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	DURATION	COURSE NOTE REF.NO
2.1	Contribute to the handling of cargo and stores		
2.1.1	knowledge of procedures for safe handling, stowage and securing of cargoes and stores, including dangerous, hazardous and harmful substances and liquids		
2.1.1.1	heavy lifts		
	a) states the precautions to take and the procedure of loading or discharging heavy lifts		
	b) states the uses of dunnages		
	c) states that the cargo securing shall be carried out according to the cargo securing plan given by the chief officer		
2.1.1.2	solid bulk cargoes		
	a) describes the safety precautions to be observed during handling of solid bulk cargoes on bulk carriers		
	b) describes the procedure of preparing holds for loading solid bulk cargoes in general		
	c) states the dangerous natures associated with different types of solid bulk cargoes and briefly explain the precautions to be taken		
	d) briefly explains the special constructions available on bulk carriers for cargo securing and stability purposes		
	e) states the importance of loading solid bulk cargoes symmetrically on both sides of the holds		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

2.1.1.3	Vehicle cargoes		
	a) describes the safety precautions to be taken when handling vehicles on car carriers		
	b) lists the securing equipment used on car carriers and their functions		
	c) states that the cargo securing shall be carried out according to the cargo securing plan given by the chief officer		
	d) states the purpose of gas tight doors on car carriers		
	e) states the importance of switching on ventilations on car carriers		
	f) states that the gas and water tight doors of relevant compartments shall be opened before switching on ventilations		
	g) states the precautions to be taken while lowering and securing the ramps		
2.1.1.4	Oil cargoes in bulk		
	a) briefly describes the safety precautions to be taken while handling liquid bulk cargoes on tankers		
	b) briefly describes the procedure of cargo loading and discharging on tankers		
	c) briefly describes the purpose of inert gas		
	d) briefly describes the procedure of COW		
	e) explains the meaning of gas freeing and the procedure of gas freeing		
2.1.1.5	Chemical cargoes in bulk		
	a) briefly describes the safety precautions to be taken while handling liquid chemical bulk cargoes on chemical tankers		
	b) briefly explains the loading & discharging procedure on chemical tankers		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

2.1.1.6	Liquefied gas cargoes in bulk		
	a) briefly describes the safety precautions to be taken while handling liquefied gas in bulk on gas tankers		
	b) briefly explains the procedure of cargo loading and discharging on gas tankers		
	c) states the purpose of inert gas on gas tankers		
2.1.1.7	Refrigerated cargoes		
	a) briefly describes the safety precautions to be taken while handling refer cargoes		
	b) explains the precautions to be observed when operating in high temperature areas		
2.1.2	Basic knowledge of ship's stability & stresses		
2.1.2.1	explains List and trim and how it causes		
2.1.2.2	states that the cargo to be loaded and discharged evenly both from port and starboard sides to keep the vessel upright always		
2.1.2.3	briefly explains what FSE is and its effect on ships stability		
2.1.2.4	briefly explains sagging and hogging due to uneven loading of cargo		
2.1.2.5	states that the cargo to be trimmed and distributed evenly throughout the vessel to avoid sagging, hogging and severe stresses		
2.1.2.6	states how to minimize stresses caused due to loading of heavy cargoes on decks		
2.1.2.7	states that the loading and discharging shall be carried out as per the plan provided by the chief officer		
2.1.3	cargo Securing Manual & its Content		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

2.1.3.1	explains the importance of proper securing of cargo		
2.1.3.2	describes the purpose of cargo securing manual		
2.1.3.3	briefly explains the content of cargo securing manual		
2.1.3.4	identifies the various types of securing methods and materials used on board		
2.1.3.5	states that the cargo shall be secured as per the securing plan provided by the chief officer		
2.1.4	basic knowledge of and precautions to observe in connection with particular types of cargo and identification of IMDG labeling		
2.1.4.1	identification of IMDG labeling		
	a) Demonstrates ability to identify classes of and the nature of IMDG according to the Code		
	b) States the precautions to be observed when handling dangerous goods		
	c) States that the IMDG cargo must have IMDG labels attached on all the sides of the package		
	d) States the actions to take when a dangerous cargo is received without IMDG labels		
	e) States the actions to take if a leaking dangerous cargo is noticed		
	f) States the positioning of IMDG cargoes are to be carried out according to the IMDG Code		
	g) States that the IMDG cargoes shall be positioned exactly as marked on the cargo plan given by the chief officer. The OOW to be informed if incorrectly loaded IMDG cargo is found		
2.1.4.2	States that the safety precautions and emergency procedures are to be followed as per the MFAG		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
 Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

03. Operational safety (Total number of hours – 39.0 Hrs)
Theory -18.5 Hrs
Practical -20.5 Hrs

RefNo	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	DURATION	COURSE NOTE REF. NO
3.1	Contribute to the safe operation of deck equipment and machinery		
3.1.1	Knowledge of deck equipment		
3.1.1.1	function and uses of valves and pumps, hoists, cranes, booms, and related equipment		
	a) states the function & uses of valves and pumps in general		
	b) states the uses of non-return valves, deck isolating valves (on the fire line), deck isolating valve (on the inert gas system), pressure regulating valves (on tankers), tank isolating valve (on tankers) and anchor wash		
	c) states that the opening and closing of any valve shall be done with the knowledge of a proper officer		
	d) states the uses of ballast pumps, general service pump, cargo pumps (on tankers), fire pump and emergency fire pump		
	e) briefly explains the hold bilge arrangement system		
	f) states the uses of hoists		
	g) states the function and uses of cranes, derricks and booms		
	h) states the differences between cranes and derricks		
	i) describes the names and uses of various parts of a crane and derrick with illustrations		
	j) states the function and uses of various types of blocks		
	k) states that under any circumstances not to exceed the SWL on cranes, derricks, wires or blocks		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
 Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

3.1.1.2	ability to use and understand basic signals for the operation of equipment, including winches, windlasses, cranes, and hoists		
	a) explains the importance of knowing the basic signals used during operations of winches, windless, cranes and hoists to overcome the communication barriers		
	b) states and demonstrate the basic signals used in the above		
3.1.1.3	ability to operate anchoring equipment under various conditions, such as anchoring, weighing anchor, securing for sea, and in emergencies		
	a) states the proper procedure of checking and preparing the anchor for anchoring		
	b) explains the importance of walking back the anchor before letting go		
	c) states that deep water anchoring may done totally under power		
	d) states that weighing anchor needs continuous attention to ease the weight of the cable		
	e) explains how the anchors are secured for sea passage		
	f) describes the use of anchors in emergencies		
3.1.2	Knowledge of the following procedures and ability to:		
3.1.2.1	rig and unrig bosun's chairs and staging		
	a) demonstrates the rigging and unrigging of Bosun's chair		
	b) demonstrates the rigging and unrigging of a Stage		
3.1.2.2	rig and unrig pilot ladders, hoists, rat-guards and gangways		
	a) Differentiates between accommodation ladder and gangway		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation

No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
 Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

	b) State that the SWL of accommodation ladder and gangway is marked on a plate under it, by means of total number of people and total weight		
	c) State the importance of a gangway net		
	d) State the use of Jacob (jumping/monkey) ladder		
	e) State how to rig a jumping ladder		
	f) State how to use steel ladders correctly		
	g) Describes how to rig rat guards		
	h) Describes how to rig a pilot ladder and list the equipment to be kept standby near a pilot ladder		
3.1.2.3	use marlin spike seamanship skills, including the proper use of knots, splices and stoppers		
	a) creates and states the uses of the following knots, bends and hitches:		
	i) reef knot		
	ii) round turn and two half hitches		
	iii) bowline		
	iv) bowline on the bight		
	v) rolling hitch		
	vi) sheet bend (single and double)		
	vii) fisherman's bend (anchor bend)		
	viii) clove hitch		
	ix) timber hitch		
	x) black wall hitch		
	xi) figure of eight		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
 Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

	b) demonstrates ability to create the following splices		
	i) eye splice		
	ii) back splice		
	iii) short splice		
	iv) cut splice		
	c) demonstrates ability to create a whipping to prevent the end of the rope unlaying		
	d) demonstrates ability to apply a rope stopper on a fibre rope and a chain stopper on a wire rope		
3.1.3	use and handling of deck and cargo-handling gear and equipment:		
3.1.3.1	access arrangements, hatches and hatch covers, ramps, side/bow/stern doors or elevators		
	a) describes the access arrangements to cargo holds		
	b) states the importance of illumination all accesses		
	c) describes the securing arrangements of hatch covers		
	d) states the importance of keeping hatch coamings clean		
	e) describes the function of drain lines fitted to the coaming		
	f) states the purposes of ramps, side/ bow and stern doors		
	g) states the dangers associated with improper securing of side /bow and stern doors		
	h) states that the door indicators are fitted in the bridge to prevent any accidental openings		
3.1.3.2	pipeline systems – bilge and ballast suction and wells		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
 Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

	a) describes the bilge line arrangements on board		
	b) describes the function/ operation of bilge well and states that the non-return valves & other associated equipment inside the bilge well shall not be greased or oiled during maintenance		
	c) explains how the educator system is used to pump bilges out		
	d) explains the ballast pumping arrangement on board		
3.1.3.3	cranes, derricks and winches		
	a) states the importance of carrying out planned maintenance of cranes derricks and winches		
	b) explains the safety arrangements found on cranes, derricks and winches		
	c) identifies the markings found on cargo handling equipment		
	d) explains the information can be obtained from register of cargo handling gear and deck appliances		
3.1.4	procedure of hoisting and dipping flags and state the meaning of main single-flag signals. (A, B, G, H, O, P, Q)		
3.1.4.1	describes the procedure of hoisting and dipping flags		
3.1.4.2	states the meaning of single flag signals of A, B, G, H, O, P and Q		
3.1.4.3	demonstrates ability to identify the above flag signals		
3.1.4.4	states when to hoist country flag, ensign and company flags		
3.1.4.5	describes the flag etiquette		
3.1.4.6	states that some countries need their country flag to be hoisted 24 hrs		
3.1.4.7	states that country flags shall not be put on the floor, hoist upside down and it should be handled respectfully		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

3.2	Apply occupational health and safety precautions		
3.2.1	working knowledge of safe working practices and personal shipboard safety:		
3.2.1.1	working aloft and working over the sides		
	a) describes the safe working procedure of working aloft		
	b) describe the safe working procedure of working over the sides		
3.2.1.2	working in enclosed spaces		
	a) describes the hazards of gases and fuels		
	b) explains the enclosed space entry procedure		
3.2.1.3	permit to work systems		
	a) describes the procedure of permit to work system		
	b) states why it is important to have a permit work system		
3.2.1.4	line handling		
	a) describes the precautions to take when handling mooring lines		
	b) lists the safety gears to use during line handling		
3.2.1.5	lifting techniques and methods of preventing back injury		
	a) demonstrate the correct lifting techniques as follows;		
	i) keep the feet about 30 cm apart		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

	ii) keep one foot on the side of the weight and forward of the other		
	iii) use palms and all fingers		
	iv) keep the hands close to your body		
	v) keep back straight & knees bent		
	vi) lift it by straightening knees		
	b) states that not to lift weights having a weight more than half of your body weight alone		
	c) states to take the help of another person or to use a trolley in above cases		
3.2.1.6	electrical safety		
	a) describes the safety precautions to follow to avoid electrical hazards		
	b) lists the safety gears to be used		
3.2.1.7	mechanical safety		
	a) describes the safety precautions to follow to maintain mechanical safety		
	b) lists the safety gears to be used		
3.2.1.8	chemical and biohazard safety		
	a) describes the procedure of working with various materials with having chemical and biohazards		
	b) lists the safety to gears to be used when handling such materials		
3.3	Contribute to safe operations in various weather conditions		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

3.3.1	heavy weather precautions		
3.3.1.1	explains what is the heavy weather		
3.3.1.2	describes prior preparedness for heavy weather including Deck safety and security precaution, Engine room securing and securing of the galley		
3.3.1.3	states all movable items should be properly secure and lashed, check and carried out extra lashings as required		
3.3.1.4	explains individual duties		
3.3.2	cold weather precautions		
3.3.2.1	explains what is cold weather		
3.3.2.2	states the dangers to human beings associated with cold weather conditions		
3.3.2.3	explains the importance of being in proper attire		
3.3.2.4	precautions to be observed with regard to pipe lines and the operation of pumps		
3.3.2.5	describes prior actions to be taken by Deck, Engine, and Galley Departments		
3.3.2.6	explains prior crew protection, freeze prevention of deck		
3.3.2.7	describes Hypothermia conditions and precautions to be taken		
3.3.3	precautions during high temperatures		
3.3.3.1	states prior action to be taken for protection against the high temperature		
3.3.3.2	Explain health issues regarding hyperthermia situation and heat strokes		
3.4	Apply precautions and contribute to the prevention of pollution of the marine environment		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
 Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

3.4.1	Basic knowledge of international regulations for prevent marine pollution		
	a) Identifies the marine pollutants		
	b) briefly explains the purpose of MARPOL and how it is implemented on board		
3.4.1.1	Basic knowledge of SOPEP & SMPEP		
	a) states that SOPEP applies to ships carrying oil in bulk		
	b) states the purpose of SOPEP		
	c) briefly describes the contents of SOPEP		
	d) briefly describes the equipment to be carried on board and there operational use under SOPEP		
	e) states that SMPEP applies to ships carrying noxious liquid substances in bulk		
	f) states the purpose of SMPEP		
	g) briefly describes the contents of SMPEP		
	h) briefly describes the equipment to be carried on board and there operational use under SMPEP		
3.4.2	knowledge of the use and operation of anti-pollution equipment		
3.4.2.1	states the purpose of a garbage compactor		
3.4.2.2	states the purpose of an incinerator		
3.4.2.3	states the purpose of an oily water separator		
3.4.3	Knowledge of the approved methods for disposal of marine pollutants		
3.4.3.1	describes briefly the disposal requirements according to MARPOL;		
	a) Annex I,		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

	b) Annex II,		
	c) Annex III,		
	d) Annex IV,		
	e) Annex V and		
	f) Annex VI		
3.4.3.2	briefly describe the ballast water management procedure according to the Ballast Water Management Convention		
3.5	Contribute to shipboard maintenance and repair		
3.5.1	Ability to understand and execute routine maintenance and repair procedures		
3.5.1.1	basic knowledge of PMS		
3.5.1.2	states that the onboard maintenance is carried out according the PMS		
3.5.1.3	states that to report appropriate officer if any defects are noticed on any deck machinery		
3.5.1.4	describes the general maintenances carried out on;		
	a) cranes and derricks		
	b) mooring winches & windless		
	c) hatch covers		
	d) container lashing material		
	e) ramps		
	f) accommodation ladders and gangways		
	g) ventilators		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation
No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka
 Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

3.5.2	Understanding manufacturer's safety guidelines and shipboard instructions		
3.5.2.1	basic knowledge of Material Safety Data Sheet		
3.5.2.2	states that there are manufacturer's guide lines provided for the safe operation and maintenance of each and every equipment and machinery onboard ships		
3.5.2.3	states that ship's SMS and PMS also may provide the same		
3.5.2.4	states to refer the manufacturers guide lines or onboard guide lines before using any equipment/machinery or before carrying out any maintenance work on them		
3.5.2.5	states to consult a proper officer regarding the safe operation or maintenance of any machinery/equipment if such guide lines are not clear or not available		
3.5.3	Knowledge of safe disposal of waste materials		
3.5.3.1	states that the MARPOL regulations applies to accidental discharges as well as operational discharges		
3.5.3.2	states that operational waste includes pollutants generated during onboard maintenance		
3.5.3.3	describes the waste management procedure of marine pollutants generated during maintenance work		
3.5.3.4	states how to handle waste material which are mixed with other types of pollutants specified in MARPOL Annexes		
3.5.3.5	states that not to discharge any type of waste into sea without the permission of a proper officer		
3.5.4	Knowledge of the application, maintenance and use of hand and power tools		
3.5.4.1	states the precautions to take, use and the operation of the following tools;		
	a) grinders		
	b) scaling machines		
	c) electrical chipping machines		
	d) drilling machines		
	e) electrical wire cutters		



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MERCHANT SHIPPING SECRETARIAT
Ministry of Ports & Civil Aviation

No.79, Technical Junction, Maradana Road, Colombo 10, Sri Lanka

Telephone: +94(0)112435127, Fax: +94-(0) 112430277, E-mail: dmsmos@sltnet.lk

	f) spray painting equipment		
	g) high pressure water jet machines		
	h) grease gun		
	i) electrical wire brushers		
	j) chain blocks		
	k) crow bars		
	l) chipping hammers		
	m) scrappers		