

## MASTER INLAND WATERS– YOUR STUDY CHECKLIST

View the full [Skills & Knowledge](#) required for National Standard for Commercial Vessels Part D from which oral examinations sample a candidate's proficiency.

### International Rules for the Prevention of Collisions at Sea

#### **Part A-General**

Competent		More study	
	Nothing will exonerate- vessel - master - crew		Neglect of ordinary practice
	Definitions – vessel – pdv – sail - fishing		NUC - CBD – RAM - underway

#### **Part B Steering & Sailing - Section 1**

Competent		More study	
Application -Rule 4- Conduct of vessels in any condition of visibility			
	Lookout – Rule 5-	At all times Sight & hearing All available means Full appraisal	Safe speed -Rule 6-  Visibility Traffic Manoeuvrability Background lighting Hazards Wind, Sea & Current Draught & Depth
	Risk of Collision -Rule 7-	All available means No change in Bearing Scanty information	Avoiding action -Rule 8-  Positive & Timely Due regard Safe distance, slow, stop

#### **Part B Steering & Sailing - Section 11**

Competent		More study	
Application -Rule 11- Conduct of vessels in sight of one another			
	Sailing vessels -Rule 12- Port tack gives way Windward gives way Can't determine pt give way		Overtaking -Rule 13- 22.5° abaft beam Any doubt Subsequent alteration Alter to Pt/Stb
	Head on -Rule 14-  Reciprocal Any doubt Alter to Stb		Crossing -Rule 15- Slow or stop Avoid crossing ahead Avoid altering to port
	Give way -Rule 16-  Early & substantial Avoid crossing ahead Avoid altering to port		Give way -Rule 17- Keep course & speed Action to avoid collision by her manoeuvre alone
	Responsibility/vessels -Rule 18- a., b., c.	NUC- RAM-Fishing -Sailing	Responsibility/vessels -Rule 18- d., e. CBD-Seaplane

#### **Part B Steering & Sailing - Section 111**

Competent		More study	
Conduct of Vessels in Rest Visibility			
	Section 111- Applies to Conduct of Vessels in/near Safe speed-engines ready- lookout		Res vis -Rule 19- Avoid to port fwd beam Avoid aft beam Radar alone

**IRPCS- Part C- Lights & Shapes**

Competent		More study	
	Application – Rule 20- All weather Sunset to sunrise Shapes by day		Definitions – Rule 21- Masthead 225° Side lights 112.5° Stern lights 135° Towing lights 135°
	Lights – Rules 23-27 Pdv Towing & pushing Sailing & oars Fishing NUC & RAM		Lights – Rules 28-31 CBD Pilot Anchored Seaplanes

**IRPCS- Part D- Sound Signals**

Competent		More study	
	Definitions – Rules 32 Short Prolonged		Equipment – Rules 33 <12mtr >100mtr
	Manoeuvre– Rules 34 • •• ••• ••••• - - • - - •• - • - • -		Restricted Visibility– Rules 35 - - - - •• - ••• ••••• • - •
	Attracting attention– Rules 36		Distress Signals– Rules 37
Examiners comments:			

**IALA- Buoyage System A**

Competent		More study	
	Lateral buoyage		Cardinals
	Safe water, isolated danger		Special marks

## LEGISLATION

Competent		More study	
Outcome	Content		Standards for evaluating (extracts)
<b>Table 8</b>  <b>Outcome 8.13 d</b> Maintain a safe navigation watch	<b>Watchkeeping</b>		<ul style="list-style-type: none"> <li>• Collision regs are interpreted and applied</li> <li>• Watchkeeping practices comply with accepted standards and procedures</li> <li>• Defined wheelhouse communication and reporting procedures are adopted</li> <li>• The vessel log/record book is maintained in accordance with the NSCV</li> <li>• Situational awareness is maintained</li> </ul>
		Content/application/intent of Collision Regs	
		Watchkeeping at sea/anchor/port	
		Bridge communication	
		IALA buoyage system "A"	
Competent		More study	
<b>Outcome 8.11 d</b>  Use Commonwealth, local, State/Territory Acts, Legislation, Codes and other publications relevant to the safe operation of a vessel	<b>Marine Legislation</b>		<ul style="list-style-type: none"> <li>• Apply current information obtained from Commonwealth, local, State and Territory Acts, Legislation, Codes and other publications relating to the safe navigation of a vessel</li> <li>• The duties and responsibilities of the Master are identified</li> <li>• Understand and apply SMS, safety management plans, standard and emergency operating procedures and the requirement for inductions for all crew</li> <li>• Determine and understand risk management techniques</li> <li>• Source information on the various State waterways management regulatory requirements, for example: areas of operation, bar crossings, port authority requirements</li> </ul>
		Duties and responsibilities	
		Certificates on board a small vessel	
		Procedures manuals on board a small vessel	
		Operational areas and class of vessels	
		NSCV Part E and C Section 7	
		Marine Notices, Notices to Mariners	
		Log Book or Vessel Record Book	
		Workplace Health and Safety Legislation	
		Marine Pollution	
		Local, State, Commonwealth Marine Law	
		Certificates to be carried onboard	
		Safety management systems or plans	
	Induction and shipboard training programs		
Competent		More study	
<b>Table 3</b>  <b>Outcome Environment</b> Follow environmental work practices	<b>Environmental Responsibilities</b>		<ul style="list-style-type: none"> <li>• Identify safe and environmentally acceptable practices for:</li> <li>• Refuelling</li> <li>• Cleaning up fuel or oil spills</li> <li>• Understanding garbage, sewage, noise, anchoring or marine life and other environmental type maritime responsibilities</li> <li>• Antipollution procedures and equipment</li> </ul>
		Environmental workplace practices	
		Maintain environmental records	
		Precautions to prevent pollution	
		Oil spill and response	

Competent		More study	
<b>Table 2</b>  <b>Outcome Elements of Shipboard Safety</b> Safety and Emergencies including survival craft	<b>Safety and Emergencies</b>		<ul style="list-style-type: none"> <li>• Practice survival techniques</li> <li>• Operate lifesaving and survival equip.</li> <li>• Practice with survival craft</li> <li>• Undertake/understand risk management process including SMS operational practices</li> <li>• Follow safety procs and take action</li> <li>• Understand and follow fire minimisation procedures</li> <li>• Respond to and fight fires with portable and other fire fighting appliances including correct use of vessel closure and shutdown systems</li> <li>• Identify and respond to risks associated with confined spaces</li> </ul>
		Apply basic survival skills	
		Survive at sea using survival craft	
		Fire minimization	
		Fire fighting	
		Risk management & SMS	
		Meet WHS requirements (confined space)	
Competent		More study	
<b>Table 8</b>  <b>Outcome 8.14 d</b> Respond to emergency situations	<b>Emergency Procedures</b>		<ul style="list-style-type: none"> <li>• The emergency situations are identified expeditiously and responded to appropriately</li> <li>• Procedures are appropriate and comply with NSCV Part E and current practices</li> </ul>
		Protection/safety of persons on board	
		Musters and Drills	
		Collision, grounding, damage, abandonment	
		Rescue person/vessel/aircraft in distress SAR	
	Tropical Revolving Storms		
Competent		More study	
<b>Table 8</b>  <b>Outcome 8.12 d</b> Obtain and interpret meteorology information relevant to a voyage	<b>Meteorology</b>		<ul style="list-style-type: none"> <li>• Weather information obtained is applicable to the intended voyage</li> <li>• Information obtained from observations, reports and instruments is analysed and included in the voyage planning</li> <li>• Actions taken by a small vessel to avoid severe weather are identified</li> </ul>
		Sources- weather forecasts & information	
		Instruments for on board observations	
		Elements, terms and definitions	
		Synoptic charts & Weather systems	
		Pressure systems and circulation	
	Tropical revolving storms (TRS)		

## NAUTICAL KNOWLEDGE

Competent			More study	
<b>Table 8</b>  <b>Outcome 8.15 d</b> Demonstrate knowledge of the various features of a vessel, which relate to its handling characteristics  Manoeuvre a vessel	<b>Vessel Handling and Manoeuvring</b>			<ul style="list-style-type: none"> <li>• Demonstrate knowledge of handling characteristics of a vessel and the significance of the characteristic relative to manoeuvring related to engineering and design principles</li> <li>• Vessel is manoeuvred within its performance parameters</li> <li>• Launch and retrieve liferaft/boat according to vessel procedures</li> <li>• Vessel is manoeuvred to pick up simulated person overboard using internationally recognised practices</li> <li>• Turn a vessel across the tide across the wind</li> <li>• Williamson turn, turn short around</li> <li>• Berthing and leaving a berth in various wind and tide conditions</li> <li>• Berthing/ unberthing; berthing in pen</li> <li>• Coming to and leaving a mooring</li> </ul>
			Effects of rudders and propellers	
			Berthing and unberthing in various conditions	
			Manoeuvres to approach an anchorage	
			Squat, canal & interaction effects	
			Heavy weather & bar crossing	
			Manoeuvres to launch boats or liferafts	
			Manoeuvres/procedure persons overboard	
			Towing and being towed	
Competent			More study	
<b>Table 8</b>  <b>Outcome 8.16 d</b> Demonstrate seamanship skills and techniques	<b>Practical Seamanship</b>			<ul style="list-style-type: none"> <li>• Workplace health and safety procedures are observed</li> <li>• Identify rope types and common uses</li> <li>• Tie common knots such as reef knot, bowline, sheet bend, clove hitch, round turn and 2 half hitches and understand their use</li> <li>• Eye splice a fibre/synthetic rope end join two ends complying with the rope manufacturer's recommendations</li> <li>• Whip an end</li> <li>• Techniques and skills used to perform tasks are in accordance with manufacturers' specifications and industry standards</li> <li>• Maintenance procedures comply with authorised requirements</li> </ul>
			Knots/hitches/bends/splice - fibre/syn rope	
			Precautions using rope, wire and chains	
			BS, SWL, SLL of ropes	
			Maintenance/care of rope, wire and chain	
			Rigging gear, cranes and maximum loads	
			Winches and windlasses	
			Safe handling of moorings and hawsers	
			Stowing and securing anchors for sea	
			Secure for weather and watertight integrity	
			Lashing and securing equipment	

## SHIP CONSTRUCTION

Competent	More study	
<b>Outcome 8.1</b> Understand principle structural components of a small vessel and their functions	<b>Design &amp; Construction</b>	
		Principle parts of a vessel
		Basic methods of design
		Construction material (Steel, Aluminium, FRP & Wood)
<b>Outcome 8.2</b> Maintain the watertight integrity of a vessel	<b>Watertight Integrity</b>	
		Watertight and weathertight integrity
		Design characteristics preserving water tight integrity
		Maintenance to sustain watertight integrity
<b>Outcome 8.3</b> Operate the fuel, fresh and ballast water, bilge and fire pumping systems installed in a vessel	<b>Pumping Arrangements</b>	
		Fuel, fresh and ballast water, bilge and fire pumping
		Sounding and venting facilities
		Safety features incorporated in systems
		Maintenance to ensure operational readiness
		Regulated requirements
<b>Outcome 8.4</b> Use and maintain deck machinery installed on a vessel	<b>Deck Machinery</b>	
		Mechanical deck equipment
		Safety features incorporated in systems
		Maintenance requirements to ensure op readiness
		Precautions to be observed when using deck mach
<b>Outcome 8.5</b> Operate steering gear arrangement	<b>Steering Systems</b>	
		Steering gear arrangements
		Safety features incorporated in systems
		Maintenance requirements to ensure op readiness
	Regulated requirements	

- Identify structural components from ship's drawings and plans, locate on a vessel and ascertain the relevant regulation governing the structure
- Understand the function of structural components and compliance with conventional maritime design
- Identify samples of construction material
- Identify watertight components from ship's plans to locate on a vessel
- Understand the function in conventional maritime design
- Identify deterioration and reason
- Examine a vessel to test and to ensure watertight integrity in compliance
- Apply watertight integrity regs
- Identify the dangers and precautions of working in confined spaces to WH&S
- Identify pumping systems on vessel drawings and identify and trace them on board the vessel
- Operate pumping equipment to comply with manufacturer's specification
- Identify procedures to avoid contamination of fuel or drinking water
- Ensure bilges are clean and dry
- Provide fire fighting whilst maintaining stability of the vessel and without environmental contamination
- Maintain and test pumping equipment according to specifications
- Safety precautions and pollution prevention measures during refuelling applied to legislative, supplier's requirements, operating procedures
- Operating procedures are in accordance with manufacturers' specification and/or vessel operating procedures
- Regulatory requirements are applied
- Maintenance procedures comply with manufacturer's requirements
- Safety procedures and precautions followed are in accordance with WH&S and maritime safety regulations
- Operating procedures accord with manufacturers' specs and/or vessel ops
- Regulatory requirements are applied
- Maintenance procedures comply with manufacturer's requirements
- Faults are identified promptly and emergency procedures are implemented according to operating procedures
- Safety procedures and precautions in accord with WH&S and maritime regs

Competent		More study		
<b>Outcome 8.6</b> Manage hull deterioration	<b>Vessel Maintenance</b>			<ul style="list-style-type: none"> <li>• Deteriorated hull and fittings are identified in accord with maritime engineering examination procedures</li> <li>• Regulatory requirements are applied</li> <li>• Maint. procedures/safety precautions comply with manufacturer's recs/warning</li> <li>• Maintenance schedule is (as minimum) as per manufacturer's requirements</li> </ul>
		Characteristics and causes of deterioration		
		Methods to minimise and remedy deterioration		
		Maintenance management		
<b>Outcome 8.7</b> Demonstrate knowledge of various methods of slipping a vessel	<b>Slipping</b>			<ul style="list-style-type: none"> <li>• Demonstrate knowledge of procedures per vessel/engineering practices</li> <li>• Deteriorated underwater fittings are identified</li> <li>• WH&amp;S procs observed</li> <li>• Regs interpreted correctly</li> <li>• Maintenance procedures comply with manufacturer's requirements</li> <li>• Safety precautions and procedures comply with vessel operating procedures</li> <li>• The precautions for putting a vessel back in the water conform to regulations and engineering principles</li> </ul>
		Procedures for slipping a vessel. That an industry visit incorporates the witnessing of a vessel being slipped		
		Safety precautions (ship/personnel) on board a vessel whilst out of the water (industry visit to slipping)		
		Maintenance to ensure operational readiness.		
		Working in confined spaces		
		Regulated requirements		

## STABILITY

Competent		More study		
<b>Outcome 8.8 a</b> Use simplified stability information to maintain the stability of a vessel	<b>Stability</b>			<ul style="list-style-type: none"> <li>• Information obtained from a vessel's simplified stability data book is applied to maintain the stability of a vessel</li> <li>• Demonstrate knowledge of stability, including interpretation of diagrams, principles and content of a vessels simplified stability book</li> <li>• Demonstrate how to improve stability for heavy weather considerations</li> </ul>
		Principles of stability		
		Terms and definitions		
		Basic physics of stability		
		Equilibrium		
		Impact of design and hull shape on stability Note: Stability to be considered without calculation		
	<b>Operating Conditions</b>			
		Adding and removing weights		
		Water on deck		
		Slack tanks		
		Roll period		
		Stiff and tender vessel		
	Additions and alterations to vessels			