سازمان بنادر و دریانوردی

دستورالعمل اجرایی برگزاری دوره آموزشی و آزمونهای شایستگی دریانوردی سمت

فرمانده بر روی کشتیهای با ظرفیت ناخالص کمتر از ۵۰۰ - سفرهای نزدیک به ساحل

The code of practice for conducting Master on ships of Gross Tonnage GT <500 engaged on Near Coastal Voyages Training Course and Competency Assessments

کد مدرک : P6-W125

شماره بازنگری	تاریخ بازنگری	شرح تغییرات (علت و محل)	تهیه کننده	تأیید کننده	تصویب کننده
۰۲	۹۳/۰۵/۲۰	براساس بازنگری کلی کنوانسیون STCW 78, As Amended	رئیس اداره استانداردهای دریانوردان نصرت اله علی پور	مدیر کل امور دریانوردان حسین میرزایی	معاون امور دریایی سید علی استیری

فهرست مندرجات

مقـــدمـــه

سازمان بنادر و دریانوردی در راستای اجرای وظایف و اختیارات قانونی ناشی از ماده ۱۹۲ قانون دریایی جمهوری اسلامی ایران مصوب شهریور ماه ۱۳۴۳ و بند ۱۰ ماده ۳ آئین نامه تشکیل سازمان بنادر و دریانوردی مصوب بهمن ماه ۱۳۴۸ کمیسیون های خاص دو مجلس که صدور هر گونه سند یا گواهینامه و پروانه مربوط به کشتی ، فرماندهان ، افسران و کارکنان کشتیها را در صلاحیت این سازمان قرار داده و در راستای رعایت مفاد کنوانسیون بین المللی استانداردهای آموزش، صدور گواهینامه و نگهبانی دریانوردان (STCW- as amended) مصوب مرداد ماه ۱۳۷۵ مجلس شورای اسلامی ایران و با عنایت به مقرره II/3 کنوانسیون مذکور و بخش II/3- الف آیین نامه مربوطه ، این "دستورالعمل اجرایی برگزاری دوره آموزشی و آزمونهای شایستگی دریانوردی سمت فرمانده بر روی کشتیهای با ظرفیت نا خالص کمتر از ۵۰۰ (GT<500) - سفرهای نزدیک به ساحل " را تدوین نموده و پس از تصویب هیأت عامل سازمان قابل اجرا می باشد.

یادداشت: قانون تغییر نام سازمان بنادر و کشتیرانی به سازمان بنادر و دریانوردی در تاریخ ۱۳۸۷/۰۲/۱۰ به تصویب مجلس شورای اسلامی رسید.

۱–هدف از تدوین

هدف از تدوین این دستورالعمل ارائه حداقل نیازمندیهای برگزاری دوره های آموزشی و آزمونهای شایستگی دریانوردی سمت فرمانده بر روی کشتیهای با ظرفیت نا خالص کمتر از ۵۰۰ (GT<500) - سفرهای نزدیک به ساحل می باشد.

۲– دامنه کاربرد

این دستورالعمل برای کلیه مراکز آموزشی مورد تایید سازمان و مجری برگزاری دوره آموزش سمت فرمانده بر روی کشتیهای با ظرفیت نا خالص کمتر از ۵۰۰ (GT<500) - سفرهای نزدیک به ساحل می باشند، کاربرد دارد.

۳–تعاریف

اصطلاحات استفاده شده در راستای اهداف این دستورالعمل دارای معانی ذیل می باشند.

۳–۱ دستگاه نظارت مرکز (Central Monitoring Office):

به معنای اداره یا بخشی که وظیفه صدور مجوز فعالیت آموزش دریانوردی و نظارت بر مراکز آموزشی را بر عهده دارد. دستگاه نظارت در ستاد سازمان ، اداره استانداردها ی دریانوردان می باشد. مدیر کل امور دریانوردان نیز جزء دستگاه نظارت مرکز بوده و می تواند صدور مجوز فعالیت آموزش دریانوردی و نظارت بر مراکز آموزش دریانوردان را تایید نماید.

۳–۲ گواهینامه شایستگی دریانوردی (Certificate of Competency):

به معنای گواهینامه صادره طبق مفاد بند ۵,٤ این دستورالعمل برای فرماندهان، افسران و کاربران مخابرات می باشد و دارنده‌ی قانونی آن محق به خدمت در سمت و عمل به وظایف مربوطه در سطح مسئولیت مشخص شده در آن است.

۳–۳ دستورالعمل (Code of Practice):

به معنای مجموعه قوانین، مقررات ملی و الزامات مندرج در این دستورالعمل است که توسط اداره کل امور دریانوردان تدوین و به تصویب هیات عامل سازمان رسیده است.

۳–۴ شرکت کشتیرانی (Company):

به معنای مالک کشتی، هر شخصی مانند مدیر، یا اجاره کننده دربست کشتی است، که مسئولیت عملیات کشتی از طرف مالک کشتی بر وی فرض شده است، و با قبول چنین مسئولیتی، کلیه وظایف و مسئولیت‌های محول شده بر شرکت توسط این دستورالعملها را بر عهده گرفته است.

۳-۵ کنوانسیون (Convention):

به معنای کنوانسیون اصلاح شده بین المللی استانداردهای آموزشی، صدور گواهینامه و نگهبانی دریانوردان (STCW-78 as amended) می باشد.

۳-۶ گواهی طی دوره (Course Completion Certificate or Documentary Evidence):

به معنای گواهی است که مرکز آموزشی مورد تایید سازمان به فراگیر پس از گذراندن موفقیت آمیز دوره مربوطه ارائه می دهد.

۳-۷ ظرفیت ناخالص کشتی (Gross Tonnage):

به معنای ظرفیت ناخالص حجمی محاسبه شده شناور بر اساس مقررات مربوطه می باشد.

۳-۸ آئین نامه ی امنیت کشتی ها (ISPS Code):

به معنای آئین نامه بین المللی امنیت کشتی ها و تسهیلات بندری است که در تاریخ ۲۰۰۲ میلادی طی قطعنامه شماره ۲ کنفرانس دولتهای متعاهد به کنوانسیون بین المللی ایمنی جان اشخاص در دریا ۱۹۷٤ (SOLAS) به تصویب رسیده و ممکن است توسط سازمان بین المللی دریانوردی براساس اصلاحیه های بعدی تغییر یابد.

۳-۹ سطح مدیریتی (Management Level):

به معنای سطحی از مسئولیت اطلاق می گردد که مرتبط با وظایف مدیریتی فرمانده، افسر اول، افسر سرمهندس و افسر مهندس دوم در کشتیها می باشد و همچنین آنها را ملزم به حصول اطمینان از انجام مطلوب وظایف محوله بر روی کشتی در حیطه مسئولیت هایشان می نماید.

۳-۱۰ فرمانده (Master):

به معنای شخصی است که عهده‌دار فرماندهی کشتی می باشد.

۳-۱۱ گواهینامه سلامت پزشکی(Medical Fitness Certificate):

به معنای گواهینامه ای است که توسط پزشک معتمد سازمان طبق دستورالعمل مربوطه و جهت متقاضیانی که از نظر پزشکی از سلامت برخوردار باشند، صادر می گردد.

۳-۱۲ کشتی تجاری (Merchant Ship):

به معنای هر نوع شناوری است (به استثنای شناورهای خدماتی، سکوهای متحرک فراساحلی، صیادی و یا نظامی) که در امر جابجایی کالاهای تجاری، مسافر و بار تسهیلات مربوط به کالاهای تجاری بکار گرفته می شود.

۳-۱۳ گواهینامه حداقل پرسنل ایمن (Minimum Safe Manning Certificate):

به معنای گواهینامـه ای است که در آن حداقل پرسنل ایمن یک شناور تعیین و توسط سازمان تائید می گردد.

۳-۱۴ ماه (Month):

جهت محاسبه خدمت دریایی هر ماه متشکل از ۳۰ روز می باشد.

۳-۱۵ سفرهای نزدیک به ساحل (Near Coastal Voyages / NCV):

به معنای سفر هایی است که در آبهای خلیج فارس، دریای خزر و محدوده تعریف شده در دریای عمان (آبهای واقع در غرب خطی که نقطه جغرافیایی با مشخصات ۲۲ درجه و ۳۲ دقیقـه شـمال و ۵۹ درجـه و ٤٨ دقیقـه شرق « راس الحد- عمان» را به نقطه جغرافیایی دارای مشخصات ۲۵ درجه و ٤ دقیقه شـمال و ٦١ درجـه و ۲۲ دقیقه شرق «گواتر- ایران» وصل می نماید) انجام می شود.

۳-۱۶ سازمان (Ports & Maritime Organization):

به معنای سازمان بنادر و دریانوردی جمهوری اسلامی ایران می باشد.

۳-۱۷ مقررات (Regulations):

به معنای مجموعه مقررات مندرج در کنوانسیون و آئین نامه می باشد.

۳-۱۸ خدمت دریایی (Seagoing Service):

به معنای مدت زمان دریانوردی بر روی کشتی است که می بایست مرتبط با صدور و یا تجدید گواهینامه هـای شایستگی و یا مهارت در یانوردان می باشد.

۳-۱۹ گواهی خدمت دریایی (Seagoing Service/ Documentary Evidence):

به معنای تأییدیه خدمت دریایی دریانوردان جهت شرکت در دوره های آموزشی، آزمونهای دریانوردی و صـدور گواهینامه های دریانوردی می باشد که علاوه بر ثبت در شناسنامه دریانوردی، توسط شرکت کشتیرانی/ مالـک کشتی و یا اتحادیه مالکان کشتیها به صورت فرم کامپیوتری (computer sheet)، نامه اداری شماره شده و یـا فرم تعریف شده (به ضمیمه این دستورالعمل) قابل ارائه می باشد.

۳-۲۰ کشتی دریا پیما (Seagoing Ship):

به معنای کشتی است به غیر از آنهائیکه منحصراً در آبهای سرزمینی، نزدیک یا مجاور آبهای پناه گـاهی و یـا مناطق مشمول مقررات بندری ، تردد میکنند.

۲۱-۳آئین نامه ی کنوانسیون (STCW Code):

به معنـای آئین نامه ی استانداردهای آموزش، صـدور گواهینامه و نگـهبانی دریانوردان کـه طـی قطعنامـه ی شماره ۲ کنفرانس سال ۱۹۹۵ میلادی تصویب و ممکن است توسط سازمان بین المللی دریانوردی بر اساس اصلاحیه های بعدی تغییر یابد، می باشد.

۲۲-۳ مرکز آموزشی(Training Center):

به معنای دانشگاه، شرکت، موسسه یا هر ارگانی که بر اساس مجوز اخذ شده از سازمان در زمینه آموزشـهای دریانوردی فعالیت می کند.

۲۳-۳ سفرهای نامحدود (Unlimited Voyages):

به معنای سفرهای بین المللی که محدود به سفرهای نزدیک به ساحل نباشد.

۴- مسئولیت‌ها

۴-۱ مسئولیت بازنگری این دستورالعمل بر عهده دستگاه نظارت مرکز می‌باشد.

۴-۲ مسئولیت تایید اصلاحیه ها به این دستورالعمل بر عهده اداره کل امور دریانوردان می‌باشد.

۴-۳ مسئولیت تصویب اصلاحیه ها به این دستورالعمل برعهده معاون امور دریایی به نیابت از هیات عامل سـازمان می باشد.

۴-۴ مسئولیت اجرای کامل دوره آموزشی بر اسـاس عناوین اعلام شده بر عهده مرکز آموزشی می باشد.

۴-۵ مسئولیت نظارت بر حسن اجرای این دستورالعمل در مراکز آموزشی دریانوردی بر عهده دستگاه نظارت مرکز می باشد.

۵- روش اجرا :

۵-۱ هدف از برگزاری دوره آموزشی

هدف از برگزاری این دوره آموزشی ، آماده نمودن فراگیران برای کسب توانمندی های مندرج در بنـد ۲-۶-۵ این دستورالعمل می باشد.

۵-۲ طـول دوره

طول دوره حداقل ۲۰۷ ساعت و بر اساس ۱۵۹ ساعت نظری (تئوری) ، ۱۴ ساعت عملی و ۳۴ ساعت تمرین می باشد.

۵-۲-۲ حداکثر مدت زمان آموزش روزانه برای هر فراگیر ۸ ساعت می باشد.

۵-۳ تعداد شرکت کنندگان در دوره

۵-۳-۱ حداکثر فراگیران شرکت کننده در هر دوره ۲۰ نفر می باشد.

۵-۳-۲ در صورت افزایش حداقل فضا، تجهیزات و امکانات کمک آموزشی مرتبط بر اساس دستورالعمل صدور مجوز و نظارت بر اجرای دوره ها در مراکز آموزشی دریانوردی و پس از اخذ تاییدیه از دستگاه نظارت ذیربط، تعداد شرکت کنندگان در دوره می تواند حداکثر تا ۳۰ نفر افزایش یابد.

۵-۴ شرایط ورود به دوره

۵-٤-۱ دارا بودن حداقل سن ۲۵ سال

۵-٤-۲ دارا بودن گواهینامه سلامت پزشکی معتبر بر اساس دستورالعمل مصوب سازمان

۵-٤-۳ دارا بودن حداقل مدرک تحصیلی دیپلم در یکی از رشته های مورد تایید وزارت آموزش و پرورش

۵-٤-٤ دارا بودن گواهینامه شایستگی افسر دوم بر روی کشتیها ی با ظرفیت نا خالص کمتر از ۵۰۰ (GT <500) - سفرهای نزدیک به ساحل

۵-٤-۵ دارا بودن حداقل ۳٦ ماه خدمت دریایی در سمت افسر ناوبر مسئول نگهبانی بر روی کشتیهای تجاری با ظرفیت ناخالص کمتر از ۵۰۰ سفرهای نزدیک به ساحل پس از اخذ گواهینامه شایستگی آن سمت.

۵-۵ دانش ، درک و مهارت مورد انتظار

۵-۵-۱ طراحی و برنامه ریزی سفر دریایی، هدایت و راهبری کشتی (ناوبری) انجام دریانوردی ساحلی و تعیین موقعیت با دیگر تجهیزات کمک ناوبری و توانایی تعیین و اعمال خطاهای قطب نما

۵-۵-۲ طراحی و سازماندهی ناوبری در شرایط و حالتهای مختلف

۵-۵-۳ شناخت اطلاعات مربوط به هواشناسی، هشدارهای دریانوردی و سیستم اطلاع رسانی به کشتیها

۵-۵-٤ درک مفاد، نحوه اعمال و مفهوم قوانین بین المللی جلوگیری از تصادم در دریا و توانایی برقراری و انجام نگهبانی ایمن

۵-۵-۵ شناخت اصولی که لازم است به هنگام دریانوردی رعایت گردد

۵-۵-٦ شناخت واکنش صحیح در شرایط اضطراری

۵-۵-۷ درک صحیح استفاده از سکان اضطراری

۵-۵-۸ آگاهی از نحوه یدک شدن و یدک کردن

۹-۵-۵ آگاهی از نحوه نجات افراد از دریا

۱۰-۵-۵ آگاهی از نحوه کمک کردن به شناورهای در خطر

۱۱-۵-۵ درک اقدامات لازم به هنگام وقوع حالتهای اضطراری در بندر

۱۲-۵-۵ توانمندی هدایت واحد و راه اندازی سیستم رانش کشتیهای کوچک

۱۳-۵-۵ آگاهی از رعایت و اجرای قواعد و قوانین بین المللی در زمینه ایمنی جان اشخاص، ایمنی دریانوردی، حمل کالا در دریا و جلوگیری از آلودگی دریا و توانایی در حفظ ایمنی و امنیت خدمه و مسافران

۱٤-۵-۵ آگاهی از گواهینامه ها و اسناد کشتی و شرایط احراز و اعتبار آنها و توانایی در حمل کالاهای خطرناک با کشتی

۱۵-۵-۵ شناخت حفظ تعادل و قابلیت دریانوردی کشتی و رعایت اصول ایمنی مربوط به ساختمان کشتی

۱٦-۵-۵ توانمندی استفاده از زبان انگلیسی دریایی پایه

۶-۵ عناوین دروس ، ریز مواد درسی و آزمون

عناوین دروس و جدول نمایانگر تعداد سؤالات، مدت، نوع، حدنصاب قبولی و مواد امتحانی آزمونهای شایستگی دریانوردی برای داوطلبین سمت " فرمانده بر روی کشتیهای با ظرفیت ناخالص کمتر از ۵۰۰(GT <500)- سفرهای نزدیک به ساحل " به شرح ذیل می باشد.

۱-۶-۵ جدول نمایانگر تعداد سؤالات، مدت، نوع، حد نصاب قبولی و مواد امتحانی آزمونهای شایستگی سمت فرمانده بر روی کشتیها ی با ظرفیت نا خالص کمتر از ۵۰۰ (GT < 500)- سفرهای نزدیک به ساحل

ردیف	نام آزمون	تعداد سؤالات	مدت (ساعت)	نوع آزمون	حدنصاب قبولی (درصد)	مواد درسی (ماده ۲-۶-۵)	ملاحضات
۱	ناوبری ساحلی ، سطحی	۵	۲/۵	کتبی	٪۵۵	1.2.1	
۲	کار با کالا و تعادل کشتی	٦	۳	کتبی	٪۵۵	2.1.1-2.1.2-2.1.3-2.1.4-2.1.5-2.2.1-2.2.2-3.1.1-3.1.2	کار با کالا ۳ سئوال ۵۰ نمره تعادل ۳ سئوال ۵۰ نمره
۳	شفاهی/ عملی/ شبیه ساز	-	-	شفاهی/ عملی/ شبیه ساز	-	1.1.1-1.1.2-1.3-1.4.1-1.5.1-1.5.2-1.6.1-1.7.1-1.7.2-1.7.3-1.7.4-1.7.5-1.7.6-1.7.7-1.7.8-1.8.1-3.2.1-3.3.1-3.3.2-3.3.3-3.3.4-3.3.5-3.4.1-	در زمان آزمون شفاهی به همراه داشتن شناسنامه دریانوردی الزامی می باشد

در آزمون شفاهی / عملی / شبیه ساز علاوه بر مواد درسی مربوطه، ممکن است برحسب مورد سؤالاتی از سایر مواد درسی پرسیده شود.

۵-۶-۲ حداقل مواد درسی دوره آموزش سمت فرمانده بر روی کشتیها ی با ظرفیت ناخالص کمتر از ۵۰۰ (GT <500) - سفرهای نزدیک به ساحل در بخش انگلیسی این دستورالعمل می باشد.

۵-۷ امکانات مورد نیاز جهت برگزاری دوره

جهت برگزاری دوره آموزشی علاوه بر فضای آموزشی قید شده در "دستورالعمل نحوه صدور مجوز و نظارت بر اجرای دوره ها در مراکز آموزشی دریانوردی "مصوب سازمان ، تجهیزات کمک آموزشی مشروحه زیر نیز مورد نیاز می باشد:

۵-۷-۱ سالن /کلاسها می بایست مجهز به سیستم تهویه و نورکافی و وسایل سمعی و بصری و امکانات مورد نیاز برای تدریس باشد (وسائل کمک آموزشی شامل: میز نقشه ، وایت بورد/ تخته سفید، کامپیوتر و دستگاه ویدئو پروژکتور چند رسانه ای، پرده ویدئو پرژکتور)

۵-۷-۲ کتابخانه مجهز به کتب تخصصی مورد نیاز تدریس و اطلاعات جامع دیگر در خصوص دوره (تعداد مناسب کتب مرجع مانند : آلمانک، نوریس، جداول جزر و مد و غیره).

۵-۷-۳ سالن /کلاس نقشه (Chart Room) مجهز به امکانات و تجهیزات مورد نیاز برای تدریس مواد درسی کار بر روی نقشه و ناوبری ساحلی(Chart Work Facilities) برابر با تعداد فراگیران دوره.

۵-۷-٤ فیلم های آموزشی و جزوات درسی و آموزشی مورد نیاز و مرتبط با دوره.

۵-۷-۵ مدل کره زمین، مدلهای مختلف بویه های دریایی ، ماکت و مدلهای مختلف شناورها با علائم شناسایی شناورها در روز و شب، ماکت و مدلهای اسکله و حوضچه برای تمرین قوانین راه و پهلو گیری و جدا سازی از اسکله ، ماکت کشتیها که شماتیک جرثقالها و دیگر تجهیزات عرشه را نشان دهد.

۵-۷-٦ سالن آشنایی با وسایل مختلف مورد استفاده در کشتیها (Instrument Room) شامل:

Thermometer, barometer, hydrometer, Magnetic Compass, azimuth mirror, international code of signals and flags, signaling equipment,

۵-۷-۷ دستگاه عمق یاب , VHF , دستگاه GPS , دستگاه NAVTEX Weather Facsimile Receiver, pyrotechnics , EPIRB , SART (جایگزین نمودن نرم افزار مناسب برای شبیه سازی دستگاههای مندرج در این بند و یا استفاده از کشتی های مستقر در بندر با تجهیزات مربوطه جهت تشریح بصورت بازدید، و با اخذ تائیدیه از دستگاه نظارت صادر کننده مجوز مورد قبول می باشد).

۸-۵ شرایط مدرسین و مربیان دوره

۱-۸-۵ مدرسین و مربیان دوره های آموزشی مندرج در این دستورالعمل می بایست علاوه بر گذراندن دوره مدرسی مورد تأیید سازمان دارای حداقل مدارک و تجارب مشروحه زیر باشند:

۱-۱-۸-۵ مدرسین:

۱-۱-۱-۸-۵ دارای حداقل گواهینامه شایستگی معتبر افسر دومی بر روی کشتیهای با ظرفیت ناخالص GT≥500سفرهای نامحدود با حداقل ٦ ماه خدمت دریایی و همچنین حداقل ٢٤ ماه سابقه تدریس مرتبط در مراکز آموزش دریانوردی و یا ;

۲-۱-۱-۸-۵ دارای حداقل گواهینامه شایستگی معتبر فرماندهی بر روی کشتیهای با ظرفیت ناخالص GT<3000سفرهای نزدیک به ساحل با حداقل ۱۲ ماه خدمت دریایی در این سمت و مدرک تحصیلی فوق دیپلم دریایی(ناوبری) و همچنین ۱۲ ماه سابقه تدریس مرتبط در مراکز آموزش دریانوردی و یا ;

۳-۱-۱-۸-۵ دارای حداقل مدرک تحصیلی لیسانس علوم دریایی با حداقل ۱۲ ماه خدمت دریایی و همچنین حداقل ٢٤ ماه سابقه تدریس مرتبط در مراکز آموزش دریانوردی باشند

۲-۱-۸-۵ مربیان:

۱-۲-۱-۸-۵-این دوره نیاز به مربی ندارد.

۹-۵ ارزیابی و صدور گواهینامه

۱-۹-۵ در صورت موفقیت فراگیران در ارزیابی های حین و یا پایان دوره، گواهی طی موفقیت آمیز دوره مربوطه توسط مرکز آموزشی مورد تایید و مجری برگزاری دوره صادر می گردد.

۲-۹-۵ سپس فراگیران می توانند درخواست حضور در آزمون های شایستگی و مهارت دریانوردی سازمان را بر اساس مفاد بند ۱-٦-۵ این دستورالعمل ارائه نمایند؛ و

۳-۹-۵ نهایتا اداره امتحانات و اسناد دریانوردان سازمان برای آن دسته از شرکت کنندگان که آزمون های مربوطه را با موفقیت طی نموده باشند و حائز دیگر شرایط لازم باشند، گواهینامه مرتبط بر اساس دستورالعمل صدور، تمدید و تجدید گواهینامه های دریانوردان صادر می نماید.

۱۰-۵ شرایط تمدید/ تجدید گواهینامه

گواهینامه های شایستگی و مهارت دریانوردی براساس مفاد دستورالعمل صدور ، تمدید و تجدید گواهینامه های دریانوردان تمدید و یا تجدید می گردد.

۱۱-۵ روش تأیید دوره

تأیید دوره بر اساس مفاد مندرج در دستورالعمل صدور مجوز و نظارت بر اجرای دوره‌ها در مراکز آموزش دریانوردی صورت می پذیرد.

۶-سوابق

کلیه سوابقی که نشان دهنده رعایت موارد مندرج در این دستورالعمل باشد.

۷-مراجع

۷-۱ کنوانسیون اصلاح شده STCW و آیین نامه مربوطه

۷-۲ مدل کورس سازمان بین المللی دریانوردی (IMO) شماره ۷/۰۱

۷-۳ دستورالعمل صدور ، تمدید و تجدید گواهینامه های دریانوردان

۷-٤ دستورالعمل صدور مجوز و نظارت بر اجرای دوره ها در مراکز آموزشی دریانوردی

۸- ضمائم

ندارد.

PMO

The code of practice for conducting Master on ships of Gross Tonnage (GT <500) engaged on Near Coastal Voyages Training Course and Competency Assessments

P6-W125

Revision No.	Date of revision	Comment on revision	provider	approving amendments authority	endorsing amendments authority
02	11.AUG.2014	STCW Convention, as amended	N. Alipour, Head of Seafarers' Standards' Directorate	H. Mirzaei, Director General of Seafarers' Affairs	S.A.Estiri, PMO's Deputy for Maritime Affairs

Introduction

Ports and Maritime organization (P.M.O) of the Islamic republic of Iran in performing its duty and in exercising its prerogative resulting from article 192 of the Islamic republic of Iran maritime code, 1964 and paragraph 10 of article 3 of P.M.O manifesto, 1970 enabling it to issue any document, certificate or license for ships, masters, officers and other ship personnel and also in accordance with the provisions of the international convention on standards of training, certification and watch keeping for seafarers (STCW), 1978, as amended adopted by the Islamic consultative assembly in 1996 and taking into account regulations II/3 of the mentioned Convention and section A- II/3 of related Code, develops this " code of practice for conducing Master on ships of Gross Tonnage GT<500 engaged on Near Coastal Voyages training course and competency assessments" which is applicable after endorsement by the board of executives of Ports & Maritime Organization.

NOTE: The title of Ports and Shipping Organization changed to Ports and Maritime Organization dated 29.04.2008 through parliamentary act and approved by Islamic council assembly.

1 Objective

The objective of this code of practice is to specify the minimum requirements for conducting Master on ships of Gross Tonnage GT<500 engaged on Near Coastal Voyages training course and competency assessments.

2 Scope of application

This code of practice is applicable to all approved training centers that conduct Master on ships of Gross Tonnage GT<500 engaged on Near Coastal Voyages training course.

3-Definition

For the purpose of this code of Practice, unless expressly provided otherwise:

3-1 Central Monitoring Office

Central monitoring office which is responsible for approving and monitoring training courses is the Seafarer's standard directorate of the PMO.

3-2 Certificate of Competency (COC)

Means a certificate issued and endorsed for masters, officers and GMDSS radio operators in accordance with the provisions of chapters II, III, IV or VII of the STCW Convention and entitling the lawful holder thereof to serve in the capacity and perform the functions involved at the level of responsibility specified therein.

3-3 Code of Practice

Means all national rules, regulations and requirements specified in this document which have been drafted by the PMO's General Directorate of Maritime affairs and endorsed by the PMO's board of executive

3-4 Company

Means the owner of the ship or any other organization or person such as the manager, or the bareboat charterer, who has assumed the responsibility for operation of the ship from the ship owner and who, on assuming such responsibility, has agreed to take over all the duties and responsibilities imposed on the company by these Codes of practices.

3-5 Convention

Means international convention on standards of training, certification and watch keeping for Seafarers, 1978, as amended.

3-6 Course Completion Certificate or Documentary Evidence

Means a certificate issued through the training center, after successfully completion of training program by the applicants

3-7 Gross Tonnage

Means the volume of all enclosed spaces of a vessel calculated in accordance with relevant regulations.

3-8 ISPS Code

Means the International Ship and Port Facility Security (ISPS) Code adopted on 12 December 2002, by resolution 2 of the Conference of Contracting Governments to the International Convention for the Safety of Life at Sea (SOLAS), 1974, as may be amended by the Organization.

3-9 Management Level

Means the level of responsibility associated with serving as master, chief mate, chief engineer officer and second engineer officer on board a seagoing ship, and also ensuring that all functions within the designated area of responsibility are properly performed.

3-10 Master

Means the person having command of a ship

3-11 Medical Fitness Certificate

Means a certificate issued by the PMO's recognized medical practitioner to the candidates who found to be medically fit.

3-12 Merchant Ship

Means any ship (other than servicing vessel, mobile offshore platform, fishing and naval ships) used for carriage of cargoes, passenger and/or provisions

3-13 Minimum Safe Manning Certificate

Means a certificate in which the minimum safe manning of a vessel being determined by shipping companies & approved by PMO.

3-14 Month

Means a calendar month or 30 days made up of periods of less than one month.

3-15 Near-Coastal Voyages (NCV)

Means voyages between ports situated in the Persian Gulf and Gulf of Oman (positions from LAT 22 0 32' N 0590 48' E to 25 0 04' N 061 0 22' E) or between Caspian Sea ports.

3-16 PMO

Means Ports & Maritime Organization (PMO) of the Islamic Republic of Iran

3-17 Regulations

Means regulations contained in the annex to the STCW Convention

3-18 Seagoing service

Means service on board a ship relevant to the issue or revalidation of a certificate or other qualification.

3-19 Seagoing Service / Documentary Evidence

Means approved sea going service required to be presented for participating in a training course, maritime examination and issuance of certificate. These documentary evidence should be inserted in CDC and authenticated by company or ship owner or ship owner's associations and in addition

be presentable in a form of computer sheet, official letter or other forms as defined in the annex to this code of practice.

3-20 Seagoing Ship

Means a ship other than those which navigate exclusively in inland waters or in waters Within, or closely adjacent to, sheltered waters or areas where port regulations apply.

3-21 STCW Code

Means the seafarers' training, certification and watch keeping (STCW) code as adopted by the 1995 conference resolution 2,as it may be amended by the international maritime organization.

3-22 Training center

Means maritime university/center/ directorate/ department/company and/or any organization conducting maritime training course approved by PMO

3-23 Unlimited Voyages

Means voyages not limited to the near coastal voyages.

4- Responsibilities

4-1 Central monitoring office is responsible for revising this code of practice.

4-2 General Director of Seafarers' Affairs is responsible for approving amendments to this code of practice.

4-3 Deputy of maritime affairs is responsible to endorse amendments to this code of practice on behalf of PMO's board of executive.

4-4 Training centers are to conduct training course in accordance with this Code of practice.

4-5 Central monitoring office is responsible for supervising the implementation of this code of practice in training centers.

5-Procedure:

5-1 course objective

The objective of this Training Course is to prepare trainees to achieve competencies required to perform as Master on wooden ships of Gross Tonnage GT <500 engaged on Unlimited Voyages.

5-2 course duration

5-2-1 A minimum of 159 hours theoretical, 14 hours practical and 34 Hours exercises for each trainee (total of 207 hours).

5-2-2 Maximum daily contact hours for each trainee is 8 hours.

5-3 number of trainees

5-3-1 the maximum number of trainees in each course is 20.

5-3-2 the number of trainees may be increased to 30 when the relevant facilities, teaching aids and class-room space are increased as per criteria set out in the code of practice for approving and monitoring training courses and is approved by the relevant monitoring office.

5-4 Course entry requirement

The course trainees should, at least;

5-4-1 Be not less than 25 years of age;

5-4-2 Holding valid medical fitness certificate, issued in accordance with the provisions of the relevant code of practice;

5-4-3 Holding at least general education Diploma in a field approved by the Ministry of Education;

5-4-4 Holding Second officer certificate of competency for ships with GT<500, near coastal voyages and;

5-4-5 Having at least 36 months seagoing service in second officer (officer in charge of navigational watch on ships with GT<500, near coastal voyages, after obtaining the certificate of competency for that capacity.

5-5 Expected Knowledge, Understanding and Proficiency

5-5-1 Knowledge of planning and conducting of a passage , determining position and maneuvering in near coastal voyages and Ability to use navigational aids to maintain safety of navigation;

5-5-2 Proficiency in manoeuvring and handling a ship in all conditions;

5-5-3 Knowledge of meteorological information, navigational warnings and information;

5-5-4 Knowledge of collision avoidance rule and Proficiency in maintaining a safe navigational watch;

5-5-5 Understanding marine rules and regulations;

5-5-6 Knowledge of responding to emergencies;

5-5-7 Understanding method of using emergency steering;

5-5-8 Understanding method of towing and being towed;

5-5-9 Understanding method of saving life at sea;

5-5-10 Knowledge of responding to a distress signal at sea;

5-5-11 Knowledge of responding to a emergency arise in port;

5-5-12 Proficiency in manoeuvring and operating small engine;

5-5-13 Proficiency in monitoring and controlling compliance with legislation to ensure, Safety of life at sea, Protection of the marine environment;

5-5-14 Knowledge of monitoring the loading, stowage, securing and unloading of cargoes and their care during the voyage, cargo document, validity;

5-5-15 Ability to maintaining the sea-worthiness of the ship;

5-5-16 Ability to use basic IMO standard marine communication phrases;

5-6 Course syllabi and competency assessment:

5-6-1 Competency assessment details;

No.	Title	Number of Question	Time (hours)	Type	Pass mark	Subjects (5-6-2)	Remarks (if any)
1	Coastal Navigation	5	Maximum 2.5 hours	Written	55%	1.2.1	
2	Cargo Handling & Ship Stability	6	Maximum 3 hours	Written	55%	2.1.1-2.1.2-2.1.3-2.1.4-2.1.5-2.2.1-2.2.2-3.1.1-3.1.2-	Cargo Handling & Ship Stability each 3 questions and 50 marks
3	Oral	-	-	Oral/practical/simulator	To the discretion of assessor	1.1.1-1.1.2-1.3-1.4.1-1.5.1-1.5.2-1.6.1-1.7.1-1.7.2-1.7.3-1.7.4-1.7.5-1.7.6-1.7.7-1.7.8-1.8.1-3.2.1-3.3.1-3.3.2-3.3.3-3.3.4-3.3.5-3.4.1-	At the time of oral examination seaman book must be presented

In Oral/practical/simulator assessment question from written assessments may also be asked.

5-6-2 Course minimum syllabi

Function: 1. Navigation at the management level

Competence: 1.1 Plan and conduct a coastal passage and determine position

1.1.1 Voyage planning and navigation for all conditions by acceptable methods of plotting coastal tracks, taking into account, e.g.:

- **Restricted waters**
- **Meteorological conditions**
- **Restricted visibility**
- **Traffic separation scheme**
- **Vessel Traffic Service(VTS) areas**
- **Area of extensive tidal effects**

.1 Voyage planning and navigation for all conditions 8hrs (T) + 0hrs (P) + 8hrs (E).

Knowledge of;

- That charts, course cards and other voyage planning documentation, i.e. navigation notebooks, accurately detail the plan and are prepared in accordance with industry practice.
- That positions, distances and ETAs or average speed required calculations completed using plane sailing, are accurate.
- That there is adequate fuel, water and provisions on board for the voyage.
- That all watchkeeping officers are fully briefed and familiar with the voyage plan.
- That watchkeeping officers understand the circumstances in which they may deviate from the initial plan and the requirement to update the plan where this occurs.

Ability to;

- determine key parameters for the voyage to be planned and briefs officers appropriately
- fully appraise all information that may be relevant to the voyage, including information from:
  - Charts
  - Port Information/sailing directions/tide tables
  - Notices to mariners
  - Radio Navigational Warnings/ships' routeing information
  - Meteorological information
  - Vessel condition, draught, trim and handling characteristics
- plan voyages from berth to berth using strategies and contingency plans in order to deal with various factors, such as:
  - encountering restricted visibility
  - expected meteorological conditions
  - navigational hazards and no go areas
  - making landfall
  - accuracy of position fixing required in critical areas
  - areas of restricted/confined/pilotage waters
  - traffic separation schemes en-route
  - expected traffic density
  - operational requirements in terms of passage time and fuel consumption
  - areas of extensive tidal effects
  - ensuring adequate fuel, water and provisions
  - ensuring the safety of the personnel, property and the environment
  - ship reporting requirements in vessel traffic service (VTS) and other reporting areas
  - vessel condition, draught, trim and handling characteristics

.2 Navigation and monitoring of the voyage 2hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- Plan and establish parameters and guidance to watch keeping officers to ensure that the navigation and monitoring of the voyage is appropriate for the area being navigated, with particular regard to navigation in areas of:
  - restricted waters
  - meteorological conditions
  - restricted visibility
  - traffic separation schemes
  - vessel traffic service (VTS) areas
  - areas of extensive tidal effects

That the vessel's position is monitored using two or more independent position determination systems appropriate to the area.

- That the vessel's position is determined at appropriate intervals and monitored continuously.
- That the execution of the voyage plan is monitored and that any required alterations are appraised, evaluated and approved where these are outside the authority of the watchkeeping officer.

.3 Log books and voyage records 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- That proper log and voyage records are maintained in accordance with the laws and regulations (National and International rules and Regulations).

1.1.2 Reporting in accordance with the general principles for ship reporting systems and with VTS procedures

.1 Ship reporting systems 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- Reporting in accordance with general principles for ship reporting systems and with VTS procedures.
- The general principles for reporting as per VTS procedures.
- The reporting requirements for particular reporting and VTS systems.
- Make reports in accordance with published procedures and criteria.

Competence: 1.2 Ability to operate safely and determine the ship's position and the accuracy of resultant position fix by any means (such as landmark, aid to navigation including lighthouse beacons and buoys, dead reckoning, taking into account winds, tides, currents and estimated speed) and use of all navigational aids and equipment commonly fitted on board the ship of GT<500.

1.2.1 Position determination in all conditions

.1 Terrestrial observations, including the ability to use appropriate charts, notices to mariners and other publications to assess the accuracy of the resulting fix . 6hrs (T) + 0hrs (P) + 6hrs (E).

Knowledge of;

- And ability to Use nautical charts and publications, such as sailing directions, tide tables, notice to mariners, radio navigational warnings and ships' routeing information.
- How errors may occur in position fixing, and how to minimize the probability of errors.

Understanding of;

- The plane sailing formula.

Ability to;

- Select and apply the most appropriate techniques for position monitoring using terrestrial observations in any area being navigated.
- Verify that the position is determined at appropriate frequencies and monitored continuously using terrestrial observations and techniques where these are possible.
- Assess the accuracy of position monitoring using terrestrial techniques, particularly considering:
  - the limitations and errors of the technique used
  - information from charts, notices to mariners and other publications
- Use the plane sailing formula to calculate course and distance between two positions

Use the plane sailing formula to calculate the final position, given the initial position, course and distance.

- Use appropriate charts, notices to mariners and other publications to assess the accuracy of the resulting fix.

Demonstrates

- The correcting of charts using information from notices to mariners.

.1.1 Chart work exercise **8hrs (T) + 0hrs (P) + 8hrs (E).**

Ability to;

- Converting true course to compass course and vice versa.
- Magnetic and gyro compass error by transit bearing.
- Converting compass bearing to true bearing.
- Position by cross bearing.
- Position by bearing and distance off the charted object.
- Position circle by radar distance off a charted object.
- Position line by bearing.
- Beam distance off.
- Transferring position lines.
- Running fix.
- Course and distance made good with tidal stream or current.
- Course to steer allowing for tidal stream or current.
- Actual set and rate of current between two positions.
- Leeway due to wind, course to steer allowing for leeway.

.1.2 Tides **4hrs (T) + 0hrs (P) + 4hrs (E).**

Knowledge of;

- General theory of tide.
- Basic methods of predicting tides, non-astronomical component of sea level and other irregularities of the tide.
- In basic terms the methods of predicting tides.
- The reliability of tidal predictions (awareness of the factors influencing the accuracy and reliability of predictions (e.g. local weather conditions, flooding, local area knowledge, etc).

Ability to;

- Use tide tables and determine height and time for high and low water in standard and secondary ports, predicted height of water at a given time in a tabulated port, the predicted time for a given tide level.

.2 Use 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 **2hrs (T) + 0hrs (P) + 0hrs (E).**

Familiarity with;

- That the most appropriate electronic systems and electronic navigation aids are used for position monitoring in any area given the information the system may provide and the limitations, errors and accuracy of the available system. RADAR fix, how does it work and limitations. ECHO SOUNDER, how does it work and limitations
- That each electronic navigation aid used is set up and operated effectively.
- Assess the accuracy of position monitoring using electronic navigation aids.
- Ensure that the vessel position is determined at appropriate frequencies and monitored continuously using the most appropriate electronic navigation aids available and this is cross checked with terrestrial where possible.

.2.1 Global Positioning System (GPS) 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The principle on which the Global Positioning System (GPS) operates.
- The main sources of error in the determined position.
- That the system is expected to have an accuracy of about 100 meters (95% probability).

Competence: 1.3 Determine errors of the compass, using terrestrial means, and to allow for such errors

1.3.1 Ability to determine and allow for errors of the magnetic compass.

1.3.2 Knowledge of the errors and corrections of magnetic compass.

.1 The principle of the magnetic compass and their correction.

1.1 The parts of the magnetic compass and their function 2hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The requirements of SOLAS chapter V - Regulation19, in regard to the requirements for the carriage of magnetic compasses.
- That ships must also be fitted with a pelorus, or other means, to take bearings over an arc of 360° of the horizon and a means for correcting heading and bearings to true at all times.
- The parts of the magnetic compass and their function.

1.2 The errors of the magnetic compass and their correction 2hrs (T) + 0hrs (P) + 0hrs (E).

Understanding of;

- The importance of keeping a record of observed deviations.
- Deviations and prepares a table or graph of deviations.

Familiarity with;

- That deviations may be affected by cargo of a magnetic nature, the use of electro-magnets for cargo handling, or repairs involving hammering or welding of steelwork in the vicinity of the compass.

.2 The automatic pilot (Steering and Control Systems) 2hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- Principle of automatic pilot system, function of manual settings, operational procedures, selection of the mode of steering with respect to weather, sea, traffic condition and intended manoeuvers changing-over from manual to automatic control and vice versa, adjustment of the controls for optimum performance.

Competence: 1.4 Respond to a distress signal at sea, Co-ordinate Search and Rescue operations.

1.4.1 Knowledge of the contents of International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual.

.1 The procedures contained in International Aeronautical and Maritime Search and Rescue Manual (IAMSAR) 2hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- Responsibilities of an SAR organization, coordinator of a SAR, co-ordination of RCC/OSC/CRS and role of CRS in a SAR operation, purpose of IAMSAR, SAR resources.
  Emergency radio communications system and procedures, recording, reporting, abbreviations, look out procedure, surface rescue equipment and methods, method of assisting an aircraft to ditch,

reception and interrogation of survivors / air droppable equipment/ set and drift as applied on SAR operation/ use of navigational aids in SAR operations, establishing search areas, search strategy/search patterns.

- Navigational procedures involved with search and rescue, navigational procedures when working with helicopter, navigational procedures including optimum course and speed for two ships to rendezvous for any purpose.

Competence: 1.5 Establish watch keeping arrangements and procedures

1.5.1 knowledge of content, application and intent of the International Regulations for Preventing Collisions at Sea, 1972, as amended.

.1 The International Regulations for Preventing Collisions at Sea, 1972, as amended including annexes.

8hrs (T) + 8hrs (P) + 0hrs (E).

Demonstrates

- A knowledge of the content, application and intent of the International Regulations for Preventing Collisions at Sea, 1972, as amended and The principles and rules of the international association of lighthouse authorities (IALA) maritime buoy age system, system 'A'.
- The lights, shapes and sound signals that should be shown or made by own ship in any situation
- The ability to determine risk of collision and to take appropriate action when encountering all types of vessel when in sight of one another by day or night.
- The ability to how to determine the risk of collision and the proper action to take to avoid collision in restricted visibility.
- A safe speed for any situation.
- The ability to take appropriate actions when manoeuvring in narrow channels and traffic separation schemes including encounters with other vessels.
- The ability to maintain situational awareness, determine risk of collision and to take appropriate action in situations of high traffic density both when vessels are in sight and when in restricted visibility.
- The ability to take appropriate action when another vessel is believed not to be taking the action required under the Regulations or where a collision cannot be avoided by the action of this vessel alone.

1.5.2 Principles to be observed in keeping a navigational watch

.1 knowledge of the content, application and intent of the Principles to be observed in keeping a Navigational Watch **4hrs (T) + 0hrs (P) + 0hrs (E).**

Knowledge of;

- Appropriate watch keeping arrangements that are adequate for maintaining safe watchkeeping, taking into account the prevailing circumstances and conditions.
- Determines the appropriate composition of the watch for differing situations.
- Posts watch schedules that ensure that rest periods are observed and that watchkeepers are fit for duty for operational conditions
- That the responsibilities and expected actions of the Master when in charge of the navigational watch and the officer of the watch at other times are consistent with the Principles outlined in the STCW Code and that these are clearly understood by these officers, including:
  - calling the Master
  - expectation of action until the Master formally takes control of the watch
  - physical presence on the bridge
  - maintaining an effective lookout
  - not undertaking any duties that interfere with watchkeeping
  - determining if there is risk of collision and the correct application of COLREG

- monitoring and adjusting the vessel position in a accordance with the voyage plan
- knowing the handling characteristics of their ship, including its stopping distances
- using the helm, engines and sound signalling apparatus
- familiarisation and operational use of all bridge equipment, charts, and publications
- the checks and tests
- the actions expected when encountering restricted visibility or distress situations
- actions when there is any doubt

- Use of routeing in accordance with the General Provisions on Ships' Routeing.
- Use of Reporting in accordance with General Principles for Ship Reporting Systems and with VTS procedures.

Competence: 1.6 Forecast weather

1.6.1 Forecast weather

.1 The Range of Information Available Through Fax Transmissions, Internet and Email 4hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The characteristics of various weather systems, local winds and currents, reporting procedures and recording systems.
- The source of information relating to radio stations, and their transmissions.

Understanding of;

- The information given in surface synoptic and prognostic fax charts.
- The information received from internet and email.

Familiarity with;

- The information available to the mariner in fax transmissions.
- The information available to the mariner via internet and email.

Ability to;

- Use and interpret information obtained from shipborne meteorological instruments.
- Apply the meteorological information available.

.2 Weather Forecasting 2hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- Forecast anticipated local weather from synopsis and prognosis information received, the movement of meteorological systems, knowledge of local influences, observation of local conditions and movement of own ship.

Competence: 1.7 Respond to emergencies

1.7.1 Precautions for the protection and safety of passengers in emergency situations

.1 Precautions for the protection and safety of passengers in emergency situations 2hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The contents of muster list and emergency instructions.

Ability to;

- Preparing contingency plans and action to take in emergency situations.
- Precautions for the protection of passengers in emergency situations including crew member assigned specifically for following duties;
  - warning passengers,
  - evacuation of spaces,
  - guiding passengers to embarkation stations,
  - instructing passengers during drills,
  - Taking a roll-call of passengers.

1.7.2 Precautions when beaching a ship

.1 Precautions When Beaching a Ship 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The circumstances in which a vessel may be beached.
- Measures, which can be taken to prevent the ship driving further ashore and to assist with subsequent refloating.

Familiarity with;

- That a gently shelving beach of mud, sand or gravel should be chosen if possible.
- That beaching should be at slow speed.
- That, when trimmed heavily by the head, beaching stern first may be advantageous.
- Compares the relative advantages of beaching broadside-on and at right-angles to the beach.
- That wind or tide along the shore will quickly swing the ship broadside-on to the beach.

1.7.3 Actions to be taken if grounding is imminent and after grounding

.1 Grounding 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- That, on stranding, the engines should be stopped, watertight doors closed, the general alarm sounded and, if on a falling tide, the engines should be put full astern to see if the ship will immediately refloat.
- That a distress or urgency signal should be transmitted and survival craft prepared if necessary.
- That all tanks and compartments should be sounded and the ship should be inspected for damage.
- That any discharge or probable discharge of harmful substances should be reported to the nearest coast radio station.
- That sounding should be taken to establish the depth of water round the ship and the nature of the bottom.

1.7.4 Refloating a grounded ship with and without assistance

.1 Refloating 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- Measures, which can be taken to prevent further damage to the ship and to assist with subsequent refloating.
- How ballast or other weights may be moved, taken on or discharged to assist refloating.
- Ways in which tugs may be used to assist in refloating.
- The use of the main engine in attempting to refloat and the danger of building up silt from its use.

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

.1 Action to be taken if collision is imminent and following a collision or impairment of the watertight integrity of the hull by any cause 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The duties of the master following a collision.
- That after impact the engines should be stopped, all watertight doors closed, the general alarm sounded and the crew informed of the situation.
- That in calm weather the colliding ship should generally remain embedded to allow the other ship time to assess the damage or prepare to abandon ship.
- That survival craft should be made ready for abandoning ship or assisting the crew of the other ship.
- That a distress or urgency signal should be made, as appropriate.
- That requests for information may be received from coastal States.
- That, if not in danger, own ship should stand by to render assistance to the other for as long as necessary.
- That any discharge or portable discharge of harmful substances should be reported to the nearest coast radio station.
- That the owners should be informed and all details of the collision and subsequent actions entered in the log-book.

1.7.6 Initial Assessment of damage and damage control

.1 Initial Assessment of Damage and damage Control 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- Measures to attempt to limit damage and salve own ship.

Familiarity with;

- That damage to own ship should be determined.

1.7.7 Emergency steering

.1 Emergency Steering 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- Typical arrangements of auxiliary steering gear.
- How the auxiliary steering gear is brought into action.

Familiarity with;

- That, when appropriate, a disabled ship should report to a coastal State that it is a potential hazard to other ships or to the environment.

The navigational safety message to broadcast and signals to be displayed by a disabled vessel.

1.7.8 Towing arrangements and towing procedures

.1 Towing Arrangements and being taken in tow 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- How to approach a disabled vessel and pass the first connection by line-throwing apparatus or other methods.
- How to pay out the towing wire under control.
- Methods of securing the towing wire at the towing ship.
- The preparations made by the disabled ship.
- How to take the weight of the tow.
- How the towing speed should be decided.
- How to disconnect the tow on arrival at the destination.

Competence: 1.8 Manoeuvre and handle a ship in all conditions

1.8.1 Manoeuvring and handling a ship in all conditions

.1 Handling ship in rivers, estuaries and restricted water having regard to the effects of current, wind and restricted water on helm response 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- That shallow-water effects become more marked as the underkeel clearance decreases.
- The meaning of 'blockage factor' in restricted channels.
- How squat and trim effects increase with blockage factor.
- The reduction in keel clearance resulting from rolling and pitching and heel or list.
- How to round bends in a channel with a current in either direction, taking account of the effect of wind.
- The use of an anchor to assist in rounding a bend.
- How to turn short round in a narrow channel, with or without a wind.
- The use of an anchor to assist turning in a channel.
- The importance of navigating at reduced speed to avoid damage caused by own ship's bow wave or stern wave.
- How a passing ship affects a moored ship.

Understanding of;

- Shallow water as a depth of less than 2 times the ship's draught.
- Squat as the reduction of under-keel clearance resulting from bodily sinkage and change of trim, which occurs when a ship moves through the water.

.2 Manoeuvring in Shallow Water including the reduction in under-keel clearance caused by squat, rolling and pitching 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The effect of squat on underkeel clearance, trim and vessel manoeuvring characteristics.
- The changes in dynamic underkeel clearance when manoeuvres are conducted in shallow water in conjunction with turning or the effects of sea and swell.
- The use of the kick-ahead to control the speed and direction of the vessel.
- How a ship will respond to helm before increasing speed when using a kick ahead.
- How anchors can be used to assist in manoeuvring a vessel in shallow water.

.3 Interaction between passing ships and between own ship and nearby banks (canal effect)
1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The interaction between ship and shore.
- The interaction between ships when meeting end-on.
- The interaction between ships in an overtaking situation.
- The particular dangers of interaction when working close by other craft such as tugs.
- The pattern of pressure changes round the hull of a moving ship.
- The interaction between a ship and nearby banks (bank cushion and bank suction).
- The interaction between passing ships.
- How to pass or overtake another ship safely in a narrow channel.
- That shoal patches may give rise to bank cushion or suction, resulting in an unexpected sheer.
- The possible effects on squat, trim and vessel manoeuvring characteristics with different blockage factors and speeds.

.4 Berthing and Unberthing under various conditions of wind, tide and current with and without tugs
1hrs (T) + 1hrs (P) + 0hrs (E).

Knowledge of;

- The effects of right- and left-handed propellers on manoeuvring.
- The use of twin screws for manoeuvring.
- The advantages and disadvantages of controllable-pitch propellers with regard to ship handling.
- The use of lateral thrusters.
- That lateral thrusters cease to be effective above a certain speed, which has to be determined by trial.
- With reference to ship type and trim, the likely effect of wind on a ship when moving ahead or astern and when stopped.
- How an anchor or anchors may be used to assist in manoeuvring.
- The use of anchors for stopping in an emergency.
- The mooring lines to be used, their leads and methods of securing at the berths listed above.
- That when wind blows against a ship, a force acts almost in the opposite direction to the relative wind direction and the magnitude is proportional to the square of the relative velocity of the wind.

.5 Ship and Tug Interaction **1hrs (T) + 0hrs (P) + 0hrs (E).**

Knowledge of;

- The type of tug, i.e. conventional single or twin-screw tugs fitted or not fitted with nozzles, tractor type tugs and the ASD (azimuth stern drive) tugs.
- The main difference resulting from the location of tug's propulsion and towing point.
- The dangers related to ship-tug interaction.
- The dangers for relatively small tugs when compared with the size of assisted ships in relation to interaction phenomenon.
- The tug bow-cushion effect.
- The risk during the ship- tug co-operation of the tug getting sucked under the bow of the ship with risk of capsizing, and the importance of immediate action required by the tug master, by the application of rudder and the use of available power to go full astern, to avoid above.
- 'Girting' and the dangers associated with it.
- The dangers of ships high speed during ship-tug co-operation.

.6 Use of propulsion and manoeuvring systems including various types of rudder 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- Various types of udders, including;
  - Flap Rudder (commonly known as the "Becker rudder")
  - Rotor Rudder (commonly known as the "Jastram rudder")
  - T- shaped Rudder (commonly known as the "Single Schilling Rudder")
  - Twin Schilling Rudders and explain their advantages with regard to ship handling
- How the use of bow-thrust can be used to assist in manoeuvring.
- How the use of stern-thrust can be used to assist in manoeuvring.
- The use of rudder cycling to reduce head reach in an emergency.

.7 Choice of anchorage; Anchoring with one or two anchors in limited anchorages and factors involved in determining the length of anchor cable to be used 1hrs (T) + 1hrs (P) + 0hrs (E).

Knowledge of;

- How to choose an anchorage and lists the factors which influence the choice.
- How to judge that a ship is stopped ready for letting go.
- That positions should be obtained on letting go and again when brought up.

Familiarity with;

- The factors to consider in determining the length of anchor cable to be used as:
  - the nature of the bottom
  - the strength of current or wind
  - the strength and direction of the tidal stream
  - the exposure of the anchorage to bad weather
  - the amount of room to swing
  - the expected length of stay at anchor

.8 Dragging anchor; clearing fouled anchors 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The actions to be taken when the anchor starts to drag.
- How excessive yawing may break the anchor out of its holding and describes measures to control yaw.
- What is meant by 'foul hawse' and how it occurs.
- How to clear a foul hawse.
- How to clear a fouled anchor.

Understanding of;

- Dragging and how to detect it.

.9 Dry-Docking 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- Why a slight trim by the stern is the ideal condition for dry-docking.
- The need for adequate statical stability and when the most critical condition occurs.
- The use of bilge blocks, breast shores and bilge shores and their placement during pumping out.
- Why, as far as possible, tanks should be full or empty.
- That tanks and movable weights should be restored to their original condition before flooding the dock to ensure the same trim and zero list on refloating.
- How an adequate supply of water for fire fighting and a telephone for calling emergency services should be arranged.

.10 Management and Handling Ships in Heavy Weather, including assisting a ship or aircraft in distress; towing operations; means of keeping an unmanageable ship out of trough of the sea; lessening drift
1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- That the most common reason for heavy weather damage is lack of proper route planning taking into consideration the 96 hrs, 72 hrs and 48 hrs forecasts during planning.
- The precautions to be taken before the onset of heavy weather.
- The importance of understanding the enormous stresses encountered by the ship in heavy weather conditions.
- That high wave heights are one of the most common reasons for heavy weather damage.
- How excessive speed into head seas can cause severe panting and slamming stresses.
- That heavy pitching also gives rise to high longitudinal stresses, racing of the propeller and the shipping of water.
- That a reduction in speed combined with an alteration of course can reduce the danger of broaching-to and of being pooped.
- How to turn a ship in heavy seas.
- Methods of turning a disabled ship's head to keep it out of a sea trough and of lessening lee drift.
- How to assist a ship or aircraft in distress.
- Towing operations.

.11 Precautions in manoeuvring to launch Rescue Boats and Survival Craft in bad weather
1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- How to make a lee for launching/recovering rescue and survival craft.
- The effect of speed and the effect of flow lines around the vessel.

.12 Methods of taking on board survivors from rescue boats and survival craft 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The methods of manoeuvring the ship and the precautions needed to take on board survivors from rescue boats and survival craft.

.13 Importance of navigating at reduced speed to avoid Damage caused by Own Ship's Bow and Stern Waves 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- Damage to shore due to excessive bow waves and stern waves.
- The effects of passing ships on ships moored alongside.
- The precautions that should be taken by ships alongside to minimize the effect of passing traffic.

.14 Use of, and Manoeuvring in and near, Traffic Separation Schemes (TSS) and in Vessel Traffic Service (VTS) 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The requirements of the International Regulations for prevention of collisions at sea with respect to Traffic Separation Schemes and narrow channels.
- The actions that can be taken to manoeuvre the vessel in case of emergency.
- The information that may be required by VTS officers before entering leaving or manoeuvring within a VTS controlled area.

COMPETENCE 1.9 Operate Remote Controls of Propulsion Plant and Engineering Systems and Services

1.9.1 Operating principles of small ship marine power plants

.1 Operating principles of small ship marine power plants 4hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- Diesel Engines;
  - generally accepted engineering terms
  - The 2-stroke diesel cycle
  - The 4-stroke diesel cycle
  - The operating principles of marine diesel engine propulsion plant
- Propeller and Propeller Shaft;
  - The arrangement of thrust shaft, intermediate shafts and tail shaft
  - How propeller thrust is transmitted to the hull
  - How the propeller shaft is supported between the thrust block and the stern tube
  - The arrangement and operation of a controllable-pitch propeller (CPP)
  - The precautions to take with a CPP before:
    - starting the main engines
    - going to sea
    - entering harbor or confined waters
- Bridge Control;
  - Control system for the main engine, including control from bridge, engine control local and changeover controls

1.9.2 Ship's auxiliary machinery

.1 Ships' Auxiliary Machinery 2hrs (T) + 0hrs (P) + 0hrs (E).

Pumps and Pumping Systems

Familiarity with;

- Pumps as displacement, axial-flow or centrifugal.
- The operation of a reciprocating pump.
- Rotary displacement pumps and states typical applications.
- A screw pump and states possible uses.
- An axial-flow pump and states possible applications.
- A centrifugal pump and states typical applications.
- The need to prime a centrifugal pump.

Steering Gear

Familiarity with;

- Ram-type hydraulic steering gear.
- Rotary-vane steering gear.
- How hydraulic power is provided by variable-delivery pumps.

Generators, Alternators and Electrical Distribution

Familiarity with;

- The operation of a D.C. generator.
- D.C. motors.

1.9.3 General knowledge of marine engineering systems

.1 Marine Engineering Terms 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- What is meant by the efficiency of machine.
- How the condition of the hull affects the fuel coefficient and the fuel consumption.
- That keeping the leading edges and tips of propeller blades dressed and polished improves propeller efficiency and reduces fuel consumption.
- The correct engineering terms when describing and explaining the operation of the machinery and equipment.

.2 Arrangements necessary for appropriate and effective engineering watches to be maintained for the purpose of safety under normal circumstances and ums operations. 1hrs (T) + 0hrs (P) + 0hrs (E).

Understanding of;

- The general engine room safety that should be observed at all given times.
- The main dangers and sources of risk in an engine room.
- The importance and implementation of risk assessment and risk management in an engine room.
- The safe systems of work and permits to work that should be observed in an engine room.
- The types and importance of wearing personal protective equipment (PPE) while working in an engine room.

Function: 2 Cargo handling and stowage at the management level

Competence 2.1 Monitor the loading, stowage, securing and unloading of cargoes and their care during the voyage

2.1.1 Application of international regulations, codes and standards concerning safe handling, stowage, securing and transport of cargoes

.1 Plans and Actions Conform with International Regulations 2hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- loading to comply with the Regulations in terms of:
  - freeboard,
  - seasonal restrictions
  - zones
  - statical and dynamic stability requirements
  - bunker requirements, and considers
  - expected weather patterns
- The certificates required for inspection by port state control officers.

2.1.2 Effect on trim and stability of cargoes and cargo operations

.1 Draught, Trim and Stability 2hrs (T) + 0hrs (P) +2hrs (E).

Ability to;

- Given the draughts forward, aft and amidships, calculates the draught to use with the deadweight scale, making allowance for trim, deflection and density of the water.
- Given a ship's hydrostatic data, the weight and the intended disposition of cargo, stores, fuel and water, calculates the draughts, allowing for trim, deflection and water density.
- Calculate changes of draught resulting from change in distribution of masses.
- Calculate changes of draught resulting from change in water density.
- Calculate the quantity of cargo to move between given locations to produce a required trim or maximum draught.

- Calculate how to divide a given mass between two given locations to produce a required trim or maximum draught after loading.
- Given a ship's hydrostatic data and the disposition of cargo, fuel and water, calculates the metacentric height (GM).
- Calculate the arrival GM from the conditions at departure and the consumption of fuel and water.
- Identity when the ship will have the worst stability conditions during the passage.
- Calculate the maximum weight, which can be loaded at a given height above the keel to ensure a given minimum GM.
- Construct a GZ curve for a given displacement and KG and checks that the ship meets the minimum intact stability requirements.
- Determine the list resulting from a change in distribution of masses.
- Plan the loading and movement of cargo and other deadweight items to achieve specified draughts and/or stability conditions in terms of required statical and dynamic stability.

2.1.3 Stowage and securing of cargoes on board ship, cargo-handling gear and securing and lashing equipment

.1 Deck Cargoes 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The dangers of heavy seas breaking aboard and how to minimize that risk.
- The controlling factors for height of cargo.
- The requirements for fencing, for provision of walk-ways and for access to the top of the cargo.
- The actions to take in the event of the ship developing an angle of loll.

Familiarity with;

- That vibration and movement of the ship in a seaway compacts the stow and slackens the lashings.
- That lashings should be inspected regularly and tightened as necessary.

.2 Procedures for Receiving, and Delivering Cargo 2hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- Mate's receipts and the importance of endorsing mate's receipts for the condition of goods and packages.
- The endorsement of mate's receipts and/or bills of lading for goods in dispute.
- The endorsement of mate's receipts and/or bills of lading for cargoes where the weight and quality are not known to the ship.
- The actions to take when a clean mate's receipt or bill of lading is demanded for cargo which is not in apparent good condition.
- The documentation which should accompany dangerous goods and is required before loading.
- How to deal with empty bags or packages, sweepings and other loose goods.
- The procedure for claiming for damage done to the ship during loading or discharging.
- To whom cargo should be delivered.
- The potential consequences of delivering cargo to the incorrect party.

Familiarity with;

- That damaged cargo should be rejected or steps taken to ensure that the damage is recorded and endorsed where appropriate on the bill of lading.
- That containers should have their seals and locks in place when loaded.
- That broken or broached packages should be placed in a locker until the contents can be checked and agreed with a representative of the receiver and a receipt obtained for them.
- That cargo spaces should be searched at the completion of discharging to prevent the over carriage of cargo.

.3 Care of Cargo during Carriage 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The precautions to avoid crushing and chafing damage and cargoes are most liable to be affected.
- How cargo may be damaged by residues of previous cargo, dirty dunnage or leaking fuel oil tanks.
- How cargo can be damaged by dust and the precautions to take when carrying commodities giving rise to dust.
- That any goods containing liquids are liable to leak and the stowage required to prevent any leakage damaging other goods.
- That overheating may occur in cargo stowed against engine-room bulkheads, heated double-bottom tanks and deep tanks carrying heated cargoes.
- The measures to take to prevent pilferage of cargo during loading, discharging and carriage.
- The damage to cargo which can result from the use of fork-lift trucks and similar machinery in cargo spaces and methods of preventing it.

Familiarity with;

- Which cargoes are particularly liable to damage by ship or cargo sweat and how to minimize the risk of sweat damage.
- That many goods can be spoiled by extremes of temperature.

.4 Requirements Applicable to Cargo-handling Gear 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The requirements for guarding dangerous parts of machinery.
- The requirements for fencing of openings.
- The marking of safe working loads required on lifting appliances and loose gear.

Familiarity with;

- That national laws or regulations in respect to:
  - safe means of access to ships, holds, staging, equipment and lifting appliances
  - opening and closing of hatches, protection of hatchways and work in holds
  - construction, maintenance and use of lifting and other cargo- handling appliances
  - rigging plan and its use
  - testing, examination, inspection and certification, as appropriate, of lifting appliances, of loose gear (including chains and ropes) and of slings and other lifting devices which form an integral part of the load
  - handling different types of cargo
  - dangerous substances and other hazards in the working environment

.5 Maintenance of Cargo Gear 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The precautions to be taken when working aloft for the overhaul of cargo gear.

Ability to;

- Undertake inspections of cargo gear so that any safety issues associated with machinery, structure, running and standing rigging and associated equipment is identified and addressed before use.
- Provide instruction to crew and manages the maintenance of cargo gear.

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

.1 Loading, stowage and discharge of heavy weights 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- How a load should be spread over an area of deck or tank top by the use of dunnage to avoid heavy point loading between beams and floors.
- Methods of securing heavy lifts in the hold or on deck.

.2 Care of Cargo during Carriage 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- How to stow and secure containers on deck on vessels which are not specially designed and fitted for the purpose of carrying containers.
- The stowage and securing of road vehicles ships.
- Recommended methods for the safe stowage and securing of:
  - portable tanks
  - portable receptacles
  - wheel-based (rolling) cargoes
  - coiled sheet steel
  - heavy metal products
  - flexible intermediate bulk containers
  - unit loads
- Actions which may be taken in heavy weather to reduce stresses on securing arrangements induced by excessive accelerations.
- Actions which may be taken once cargo has shifted.
- That cargo spaces should be regularly inspected to ensure that the cargo, cargo units and vehicles remain safely secured throughout the voyage.

2.1.5 Safe cargo handling in accordance with the provisions of the relevant instruments

.1 Establish Procedures for safe cargo handling in accordance with the provisions of the relevant instruments such as; IMDG Code, MARPOL 73/78, Annexes III and V 2hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The procedures that should be followed for accepting packaged dangerous goods and marine pollutants for shipment in terms of:
  - the required documentation
  - ensuring that the condition and labelling of the goods are fit for carriage
  - ensuring that the vessel is able to safely stow the cargo in terms of vessel certification, the ability to achieve separation and segregation requirements and the availability of any particular safety equipment that might be required
- The preparations and precautions that should be taken prior to the handling of bulk cargoes, packaged dangerous goods and marine pollutants in terms of:
  - preparation of spaces
  - mooring of the ship
  - information exchange and communication with port and regulatory authorities
  - flag and light signals
  - provision of emergency, fire and protective equipment
- The risks that might be created by undeclared dangerous goods or goods that are not packaged or separated/segregated in accordance with the IMDG Code.
- That the loading and discharge of dangerous goods, bulk cargoes and marine pollutants may be subject to port and national regulations in loading and discharge ports in addition to the requirements of the IMO codes.

COMPETENCE 2.2 Carriage of Dangerous Goods

2.2.1 International regulations, standards, codes including the international maritime dangerous goods (IMDG) code and recommendations on carriage of dangerous cargoes

.1 International Regulations and Codes 1hrs (T) + 0hrs (P) + 0hrs (E).

Understanding of;

- The content and applies the of International Regulations Standards, Codes and Recommendations on the carriage of dangerous cargoes, including the International Maritime Dangerous Goods (IMDG) Code, which aims primarily to facilitate the safe stowage and shipment of solid bulk cargoes by providing information on the dangers associated with the shipment of certain types of solid bulk cargoes and instructions on the procedures to be adopted when the shipment of solid bulk cargoes is contemplated plans loading, stowage and segregation in accordance with the IMDG Code.

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

.1 Dangerous Goods in Packages 2hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The contents of the shipper's declaration of dangerous goods.
- The actions to take when documentation, packaging, labelling or the condition of packages does not meet the requirements of the IMDG Code.
- That a port authority may be empowered to refuse dangerous substances if it is considered that their presence would endanger life or property because of:
  - their condition
  - the condition of their containment
  - the condition of their mode of conveyance
  - conditions in the port area
- The inspections which may be made by a port authority.
- The signals as:
  - by day, flag 'B' of the International Code of Signals
  - by night, an all-round fixed red light
- How effective communications with the port authority can be maintained.
- The requirements regarding mooring a ship carrying dangerous substances.
- That the port authority should be informed of the intention to carry out repair work when dangerous substances are on board.
- The handling precautions which should be observed regarding:
  - avoidance of damage to packages
  - access to handling areas
  - lifting goods over dangerous goods stowed on deck
  - escape of a dangerous substance from a package entry into enclosed spaces

Understanding of;

- The marking and labeling required on packages or cargo units.
- The appropriate action to take in emergency and medical first aid situations involving dangerous goods.
- 'dangerous substances', 'port authority', 'regulatory authority', 'designated port office' and 'responsible person' as used in the Recommendations on the Safe Transport, Handling and Storage of Dangerous Substances in Port Areas.

Function: 3 controlling the operation of the ship and care for persons on board at the management level

Competence: 3.1 Control Trim, Stability and Stress

3.1.1 Fundamental principles of ship construction and the theories and factors affecting trim and stability and measures necessary to preserve trim and stability

.1 Bulkheads 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- That transverse bulkheads serve to subdivide a ship against flooding and spread of tire, to support decks and superstructures and to resist racking stresses.
- Watertight, non-watertight and oil-tight or tank bulkheads.

.2 Corrosion and its Prevention 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- What is meant by corrosion.
- The formation of corrosion cell and defines anode, cathode and electrolyte.
- The galvanic series, which of two metals will form the anode in a corrosion cell.
- The differences in surface condition or in stress concentration can give rise to corrosion cells between two areas of the same metal.
- That cathodic protection can only be used to protect the underwater hull or ballasted tanks.
- The action of anti-fouling paint.
- The use of self-polishing anti-fouling paint.
- The ban on harmful types of antifouling paint.

.3 Surveys and Dry-docking 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- All types of survey a ship is subjected to, including but limiting to : Initial Survey, Renewal Survey, Periodical Survey, Intermediate Survey, Annual Survey, Inspection of the outside of the ships bottom, Additional Survey.

Familiarity with;

- The frequency of classification society surveys.
- That intervals between dry-dockings may be extended up to 2.5 years where a ship has high-resistance paint and an approved automatic impressed- current cathodic protection system.

.4 Stability

i. Approximate Calculation of Areas and Volumes 1hrs (T) + 0hrs (P) + 1hrs (E).

Familiarity with;

- That the volume of a body may be calculated by using Simpson's rules with cross-sectional areas as ordinates.

ii. Effects of Density 2hrs (T) + 0hrs (P) + 2hrs (E).

Familiarity with;

- Why the density of the water in the dock should be taken at the same time as the draughts are read
- The statical and dynamic effects on stability of the movement of liquids with a free surface
- The use of the Fresh Water Allowance and how to determine this for a ship.
- That FWA only applies when the ship is floating at or near its summer load line.
- That information for calculating free surface effect is included in tank capacity tables.

Ability to;

- Given the density of the water in the dock, calculates the displacement for a particular draught from the seawater displacement for that draught extracted from hydrostatic data.
- Calculate the TPC for given mean draught and density of the dock water.

iii. Stability at Moderate Angles of Heel **2hrs (T) + 0hrs (P) + 2hrs (E).**

Familiarity with;

- The effect of increased freeboard on the curve of statical stability for a ship with the same initial GM.
- The effect when heeled to the listed side on:
  - the maximum righting moment
  - the angle of vanishing stability
  - the range of stability

iv. Trim and List **1hrs (T) + 0hrs (P) + 1hrs (E).**

Knowledge of;

- That the LCG must be at the same distance from amidships as LCB when the ship floats on an even keel.

Understanding of;

- Longitudinal centre of gravity (LCG) and longitudinal centre of buoyancy (LCB).

Familiarity with;

- That a ship trims about the centre of flotation until LCG and LCB are in the same vertical line.
- That the distance of the LOB from amidships or from the after perpendicular is given in a ship's hydrostatic data for the ship on an even keel.

v. Dynamical Stability **1hrs (T) + 0hrs (P) + 0hrs (E).**

Familiarity with;

- That the dynamical stability at a given angle of heel represents the potential energy of the ship.

vi. The Intact Stability code **1hrs (T) + 0hrs (P) + 0hrs (E).**

Knowledge of;

- The general precautions to be taken against capsizing.

Familiarity with;

- That stability information should comprise:
  - stability characteristics of typical loading conditions
  - information to enable the master to assess the stability of the ship in all loading conditions differing from the standard ones

vii. Dry-docking and Grounding **1hrs (T) + 0hrs (P) + 0hrs (E).**

Knowledge of;

- Why the GM must remain positive until the critical instant at which the ship takes the blocks overall.
- That a ship with a large trim will develop a large up thrust, which may damage the stern frame, trip the blocks or lead to an unstable condition before taking the blocks overall.
- That the stability of a ship aground at one point on the centre line is reduced in the same way as in dry-docking.
- That the increase in up thrust as the tide falls increases the heeling moment and reduces the stability.

Familiarity with;

That for dry-docking a ship should:

- have adequate initial metacentric height

- be upright
- have a small or moderate trim, normally by the stern

3.1.2 EFFECT ON TRIM AND STABILITY IN THE EVENT OF DAMAGE AND FLOODING

.1 Theories Affecting Trim and Stability 2hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The static and dynamic effects on stability of liquids with a free surface.
- Changes in stability which take place during a voyage.
- The effect of water absorption by deck cargo and retention of water on deck.
- The dangers to a vessel at an angle of loll.
- Effects of wind and waves on ships stability.
- The main factors which affect the rolling period of a vessel.
- The term synchronous rolling and describes the dangers associated with it.
- The actions that can be taken to stop synchronous rolling.

Familiarity with;

- Precautions to be observed in correction of angle of loll.

Demonstrates

- Understanding of angle of loll.

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

3.2.1 International maritime law embodied in various conventions

.1 Certificates and Other Documents required to be carried on Board Ships by International Conventions applicable to ships of less than 500 GT 2hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- How each of the certificates and documents required to be carried on board ships is obtained.
- The proof of validity that may be required by authorities for the certificates and documents above.

Familiarity with;

- The period of validity for each of the above certificates and the requirements for renewing or maintaining the validity of each.

.2 Responsibilities under the Relevant Requirements of the International Convention on Load Lines applicable to ships of less than 500 GT 2hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The general requirements of the Conditions of Assignment to be met before any vessel can be assigned a loadline.
- The factors that determine the freeboards assigned to a vessel.
- The requirements and coverage of initial, renewal and annual surveys.
- The contents of the record of particulars which should be supplied to the ship.
- The documentation and records that must be maintained on the ship in terms of
  - certificates
  - record of particulars
  - record of freeboards
  - information relating to the stability and loading of the ship
- The preparation required for renewal and annual loadline surveys.

- The circumstances in which an International Load Line Certificate (1966) would be cancelled by the Administration.

Familiarity with;

- That a ship to which the Convention applies must comply with the requirements for that ship.
- That after any survey has been completed no change should be made in the structure, equipment or other matters covered by the survey without the sanction of the Administration.
- That, after repairs or alterations, a ship should comply with at least the requirements previously applicable and that, after major repairs or alterations, ships should comply with the requirements for a new ship in so far as the Administration deems reasonable and practicable.
- That the appropriate load lines on the sides of the ship corresponding to the season and to the zone or area in which the ship may be must not be submerged at any time when the ship puts to sea, during the voyage or on arrival.
- That when a ship is in fresh water of unit density the appropriate load line may be submerged by the amount of the fresh water allowance shown on the International Load Line Certificate (1966).
- That when a ship departs from port situated on a river or inland waters, deeper loading is permitted corresponding to the weight of fuel and all other materials required for consumption between the point of departure and the sea.

.3 Responsibilities under the Relevant Requirements of the International Convention for the Safety of Life at Sea, applicable to ships of less than 500 GT 2hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The rights of the master of a ship in distress to requisition one or more ships which have answered his call for assistance.
- When the master of a ship is released from the obligation to render assistance.
- The requirements for the carriage of navigational equipment.
- The procedure for the testing of the ship's steering gear before departure.
- The requirements for the display of operating instructions and change-over procedures for remote steering gear control and steering gear power units.
- The requirements for emergency steering drills.

Familiarity with;

- That the use of an international distress signal, except for the purpose of indicating that a ship or aircraft is in distress, and the use of any signal which may be confused with an international distress signal are prohibited.
- The obligations of the master of a ship at sea on receiving a signal from any source that a ship or aircraft or a survival craft thereof is in distress.
- That all equipment fitted in compliance with Reg. V/12 must be of a type approved by the Administration.
- That all ships should be sufficiently and efficiently manned.
- That manning is subject to Port State Control inspection.
- That all ships should carry adequate and up-to date charts, sailing directions, lists of lights, notices to mariners, tide tables and other nautical publications necessary for the voyage.

.4 Responsibilities under the international convention for the prevention of pollution from ships, 1973, and the protocol of 1978 relating thereto (MARPOL 73/78) applicable to ships of less than 500 GT
2hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

Who may cause proceedings to be taken when a violation occurs within the jurisdiction of a Party to the Convention.

- The Parties to the Convention must apply the requirements of the Convention to ships of non-Parties to ensure that no more favourable treatment is given to such ships.

Familiarity with;

- i. Annex I — Oil
- ii. Annex II — Noxious Liquid Substances in Bulk
- iii. Annex III — Harmful Substances Carried by Sea in Packaged Forms, or in Freight Containers, Portable Tanks or Tank Wagons
- iv. Annex IV — Sewage
- v. Annex V — Garbage
- vi. Annex VI — (Regulations for the Prevention of Air Pollution from Ships) of the MARPOL Convention.

.5 The International Safety Management (ISM) and ISPS (International Ship and Port facility Security) Code. 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- Safety Management System in compliance with ISM (International Safety Management) and ISPS(International Ship and Port facility Security) Code.
- That the details of the ship's system may be found in the ship's Safety Management Manual.

.6 International Convention on Standards of Training, Certification and Watch keeping for Seafarers, 1995 (STCW) 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The general obligations under the Convention.
- Followings, for the purpose of the Convention:
  - Certificate of Competency
  - Certificate of Proficiency
  - certificated
  - seagoing ship
  - Radio Regulations
- The application of the Convention.

.7 International Convention on Tonnage Measurement of Ships, 1969 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- Followings, for the purposes of the Convention:
  - international voyage
  - gross tonnage
  - net tonnage
  - new ship
  - existing ship
- The applications of the Convention to new and existing ships.

.8 Smuggling, piracy and territorial waters. 2hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- Smuggling and its origin.
- Varieties of smuggling.
- Effects of smuggling on national security and investments.
- National rules and regulations on smuggling.
- Methods of communications with coast guard and reporting.
- Marine piracy.
- Preventive measures to reduce effect of piracy.
- Rules and regulation on territorial waters, other states water, territory of oil rigs, and penalties due to non observance.

.9 Maritime Labour Convention (MLC 2006) 2hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- That the Maritime Labour Convention, 2006 is an important new international labour Convention that was adopted by the International Labour Conference of the International Labour Organization (ILO), under article 19 of its Constitution at a maritime session in February 2006 in Geneva, Switzerland.
- That it sets out seafarers' rights to decent conditions of work and helps to create conditions of fair competition for shipowners.
- That the MLC, 2006, complementing other major international conventions, reflects international agreement on the minimum requirements for working and living conditions for seafarers.
- That the Maritime Labour Convention, 2006 has two primary purposes:
  - to bring the system of protection contained in existing labour standards closer to the workers concerned, in a form consistent with the rapidly developing, globalized sector (ensuring "decent work");
  - to improve the applicability of the system so that shipowners and governments interested in providing decent conditions of work do not have to bear an unequal burden in ensuring protection ("level playing field" fair competition)
- That the Maritime Labour Convention, 2006 has been designed to become a global legal instrument that, will be the "fourth pillar" of the international regulatory regime for quality shipping, complementing the key Conventions of the International Maritime Organization (IMO) such as the International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS), the International Convention on Standards of Training, Certification and Watchkeeping, 1978, as amended (STCW) and the International Convention for the Prevention of Pollution from Ships, 73/78 (MARPOL).
- That the Maritime Labour Certificate would be issued by the flag State to a ship that flies its flag, once the State (or a recognized organization that has been authorized to carry out the inspections), has verified that the labour conditions on the ship comply with national laws and regulations implementing the Convention.
- That the declaration of maritime labour compliance is attached to the certificate and summarizes the national laws or regulations implementing an agreed-upon list of 14 areas of the maritime standards and setting out the shipowner's or operator's plan for ensuring that the national requirements implementing the Convention will be maintained on the ship between inspections.

.10 Classification Societies 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The reasons for having a ship classed with a classification society.
- That the classification society approves plans, examines the manufacture of parts and tests materials during the building of hull, machinery, equipment and, where appropriate, refrigerating machinery

explains that equipment refers to anchors, chain cables, mooring ropes and wires, mooring arrangements, windlasses and mooring winches.

Familiarity with;

- That the majority of ships are built under survey.
- That, if requested, the classification societies will also survey and certificate cargo-handling equipment.
- That a classification society will also survey an existing ship providing it meets the society's rules regarding scantlings, materials, workmanship and condition, assign a class to it.
- That to retain its class a ship must undergo periodical surveys as laid down in the society's rules.
- That periodical surveys are:
  - annual survey
  - docking survey at approximately 2-yearly intervals
  - intermediate survey
  - special survey every 4 years, which may be extended to five years
- That an occasional survey, additional to the regular surveys, must be conducted after any damage to the hull, machinery or equipment which may affect the ship's seaworthiness.
- That repairs or alterations must be carried out under survey and to the satisfaction of the society's surveyors.
- That classification societies carry out surveys for the issue of statutory certification on behalf of many governments.

.11 Stowaways **1hrs (T) + 0hrs (P) + 0hrs (E).**

Familiarity with;

- That as per IMO Guidelines -a "stowaway" is defined as "a person who is secreted on a ship, or in a cargo which is subsequently loaded on the ship, without the consent of the shipowner or the master or any other responsible person, and who is detected on board after the ship has departed from a port and is reported as a stowaway by the master to the appropriate authorities".
- That at any port in a high-risk area, great care should be taken to ensure that stowaways do not board, and the following safeguards should be observed:
  - A watch should be kept on the accommodation ladder or gangway.
  - Stevedores should only be allowed to work in restricted areas and a watch should be kept on them.
  - Open spaces should be closed as far as possible.
  - A search of the ship should be carried out before the ship sails.
  - All open-top containers on the quay should be checked. All containers on the quay should be stacked door-to-door, if possible.
  - Each stowaway found should be individually interviewed in order to establish the following details:
    - name of stowaway;
    - stowaway's date and place of birth;
    - nationality of stowaway;
    - name, date and place of birth of either or both of the stowaway's parents;
    - postal and residential address of the stowaway and either parent;
    - stowaway's passport or seaman's book number, together with date and place of issue; and
    - stowaway's next of kin, if different from above.
  - All stowaways should be housed in some part of the crew accommodation which can be locked when necessary.

- The stowaways should not be locked in their accommodation when the vessel is at sea and well clear of land unless they are considered a threat to the safety of the ship or personnel on board. Consideration should be given, however, to the possibility of unguarded stowaways launching a liferaft or boat in an attempt to reach land.
- The stowaways should be locked securely in their accommodation when the vessel approaches any port or nears any land. (Consideration should be given to the possibility of the stowaways' escape through open scuttles.)
- The stowaways should be provided with adequate food, water, sanitary facilities, etc.
- The stowaways should be treated in a humane manner.
- The stowaways should not be made to work for their keep.

.12 Port of refuge procedures 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- That a "port of refuge" is a port or place that a vessel diverts to when her master considers it unsafe to continue the voyage due to a peril that threatens the "common safety", e.g. when there is a dangerous ingress of water into the vessel, a dangerous shift of cargo, the vessel adopts an angle of loll, there is a serious fire on board, etc.

.13 Port and Flag State Control 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- That "Port State control" is the inspection of foreign ships present in a nation's ports for the purpose of verifying that the condition of the ships and their equipment comply with the provisions of international conventions and codes, and that the ships are manned and operated in compliance with those provisions.
- That the primary responsibility for maintaining ships' standards rests with their flag States, as well as their owners and masters. However, many flag States do not, for various reasons, fulfill their obligations under international maritime conventions, and port State control provides a useful "safety net" to catch substandard ships.

.14 National legislation for implementing international agreements and conventions 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The Islamic Republic of Iran national legislation and the process by which international agreements and conventions are ratified and implemented into national legislation.

COMPETENCE 3.3 Maintain Safety and Security of Crew and Passengers and the Operational Condition of all Safety Equipment

3.3.1 Life-Saving Appliance Regulations (SOLAS) applicable to ships of less than 500 GT

.1 Life-Saving Appliance Regulations (SOLAS) applicable to ships of less than 500 GT 1hrs (T) + 0hrs (P) + 0hrs (E).

Demonstrate

- Thorough knowledge of the regulations concerning life-saving appliances and arrangements (SOLAS), including the LSA Code applicable to ships of less than 500 GT.

3.3.2 Organization of Fire and Abandon Ship Drills

.1 Organization of Fire and Abandon Ship Drills 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- Ways in which crew can be motivated to participate fully in drills.

Ability to;

- Prepares schedules for the conduct of fire and abandon ship drills so that all required drills and equipment are covered within required timeframes.
- Prepares plans for effective drills.
- Organizes effective drills including the briefing, conduct and debriefing of the drill.

3.3.3 Maintenance of operational condition of Life-saving, Fire-fighting and Other Safety Systems

.1 Maintenance of operational condition of Life-saving, Fire-fighting and Other Safety Systems 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The use and upkeep of the safety equipment provided and the required maintenance of this equipment.

Ability to;

- Prepare procedures and checklists for the inspection of lifesaving, fire fighting and other safety systems on board.
- Ensure that regular inspections of lifesaving, fire fighting and other safety systems on board are undertaken and that any deficiencies are identified and rectified.
- Prepare procedures and schedules for the maintenance of lifesaving, fire fighting and other safety systems on board.
- Prepare schedules for the required survey of lifesaving, fire fighting and other safety systems on board.
- Prepare for and supports the survey of lifesaving, fire fighting and other safety systems on board.
- Prepare procedures and checklists for the inspection of watertight doors, side scuttles, valves and other closing mechanisms.
- Prepare maintenance plans and procedures for watertight doors, side scuttles, valves and other closing mechanisms.

3.3.4 Actions to be taken to Protect and Safeguard all Persons on Board in Emergencies

.1 Actions to be taken to Protect and Safeguard all Persons on Board in Emergencies 2hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- That some crew members will be assigned specific duties for mustering and control of passengers
- Those duties as:
  - warning the passengers
  - ensuring that all passenger spaces are evacuated
  - guiding passengers to muster stations
  - maintaining discipline in passageways, stairs and doorways
  - checking that passengers are suitably clothed and that life jackets are correctly donned
  - taking a roll-call of passengers
  - instructing passengers on procedure for boarding survival craft or jumping into the sea
  - directing passengers to embarkation stations
  - instructing passengers during drills
  - ensuring that a supply of blankets is taken to the survival craft

i. Rescue of Persons from a Vessel in Distress or from a Wreck

Knowledge of;

- The preparations for taking survivors on board from the boats.
- How to provide a lee and launch boats.
- How boats should approach the wreck and pick up survivors.
- The recovery of boats and survivors.
- The methods of rescue which may be used when sea conditions are too dangerous to use boats.

Familiarity with;

- Why it is preferable to wait for daylight when no immediate danger exists.
- That communications should be established between the ships and the method of rescue agreed upon when time permits.
- That rescue boats or motor-lifeboats would be used if conditions permitted.

ii. Man-overboard Procedure

Knowledge of;

- Methods of recovering a person from the sea when heavy weather prevents the use of the normal manoeuvres and boats.
- The actions to take when a person is reported missing at sea.

3.3.5 Actions to Limit Damage and Salve the Ship following a Fire, Explosion, Collision or Grounding

.1 Means of limiting damage and salving the ship following a fire or explosion 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The use and limitations of standard procedures and prepared contingency plans in emergency situations.
- Methods of fighting fires.
- The dangers of accumulated water from fire fighting and describes how to deal with it.
- The precautions to take before entry to a compartment where a fire has been extinguished.
- The inspection for damage.
- Measures which may be taken to plug holes, shore-up damaged or stressed structure, blank broken piping, make safe damaged electrical cables and limit ingress of water through a damaged deck or superstructure.

Familiarity with;

- That cooling of compartment boundaries where fire has occurred should be continued until ambient temperature is approached.
- That watch for re-ignition should be maintained until the area is cold.
- That continuous watch should be kept on the damaged area and temporary repairs.
- That course and speed should be adjusted to minimize stresses and the shipping of water.

.2 Procedure for Abandoning Ship 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- That a ship should only be abandoned when imminent danger of sinking, breaking up, fire or explosion exists or other circumstances make remaining on board impossible.
- That a distress call should be transmitted by all available means until acknowledged.
- The information to include in the distress message.
- Other distress signals which may be used to attract attention.
- The launching of boats and liferafts when the ship is listing heavily.
- The launching of boats and liferafts in heavy weather conditions.

Competence: 3.4 Develop emergency and damage control plans and handle emergency situations

3.4.1 The preparation of contingency plans for response to emergencies

.1 Contingency plans for response to emergencies 2hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- Options for the division of the crew, e.g., into a command team, an emergency team, a back-up emergency team and an engine-room emergency team.
- The composition of the emergency teams in the above objective.
- How drills and practices should be organized.
- That crew members not assigned to emergency teams would prepare survival craft, render first aid, assemble passengers and generally assist the emergency parties as directed.
- That the engine-room emergency team would take control of engine-room emergencies and keep the command team informed.
- That good communications between the command team and the emergency teams are essential.

Ability to;

- Draws up a muster list and emergency instructions for a given crew and type of ship.
- Designate muster positions for the command team, both at sea and in port.
- Designate muster positions for the emergency teams.
- prepare contingency plans to deal with:
  - fire in specific areas, such as galley, accommodation, container stows on or under deck, engine-room or cargo space, including co-ordination with shore facilities in port, taking account of the ship's fire-control plan
  - rescue of victims of a gassing accident in an enclosed space
  - water ingress into the ship
  - serious shift of cargo
  - piracy attack
  - being towed by another ship or tug
  - heavy-weather damage, with particular reference to hatches, ventilators and the security of deck cargo
  - rescue of survivors from another ship or from the sea
  - leakages and spills of dangerous cargo stranding
  - abandoning ship

i. Actions to be taken when Emergencies Arise in Port

Knowledge of;

- Actions to take in the event of fire on own ship, with particular reference to co-operation and communication with shore facilities.
- Action which should be taken when fire occurs on a nearby ship or an adjacent port facility.
- The circumstances in which a ship should put to sea for reasons of safety.
- The actions to be taken when own ship is dragging anchor towards dangers in port.
- The actions which can be taken to avoid a ship dragging anchor towards own ship in an anchorage.
- The actions and precautions to take when a submarine cable is lifted by the anchor.
- How to buoy and slip an anchor.
- How an anchor may be recovered when no power is available at the windlass.

.2 Maritime English in Written and Oral Form 8hrs (T) + 4hrs (P) + 0hrs (E).

Knowledge of;

- The English language to be able to use; chart and nautical publications.
- To communicate with other ships and coast stations.
- To communicate with multi-lingual crew.

- To use standard marine navigational vocabulary as replaced by IMO standard marine communication phrases.
- To understand meteorological information and messages concerning ship's safety/security and operation.
- Understand manufacturer's technical manuals and specifications and to converse with technical shore staff concerning ship and machinery repairs.

5-7 facilities and equipment required for conducting the course

Apart from those facilities, equipments and or requirements mentioned in Code of practice for approval and monitoring of maritime training courses followings have to be provided:

5-7-1 Classroom with air conditioning facilities, sufficient lighting and other facilities, suitable for delivering theoretical subjects(such as: chart table, white board, computer, multimedia projector and its curtain)

5-7-2 library with related technical books and references (such as suitable number of Almanac, Nories, Tide table and etc,)

5-7-3 Chart room with sufficient number of chart work facilities in relation to the number of trainees.

5-7-4 relevant educational and training films

5-7-5 Earth structure model, different buoys, ships model in day and night and relevant facilities for exercising rule of the road and ColReg in channels / rivers and lake or sea and berthing/unberthing exercises, ships model fitted with crane and other deck fittings. In addition followings to be provided:

5-7-6 Instrument Room equipped with following items:

- Thermometers, Barometer, Marine Hydrometer , Magnetic Compass, Azimuth Mirror, International Code of Signal and Flags and a set of Visual Signalling Equipment.

5-7-7 navigational aids such as: Echo Sounder, GPS, VHF, NAVTEX, Weather facsimile receiver Pyrotechnics, SART and EPIRB (replacing such equipments with approved simulation system or carry out ship visit to carry out relevant training may be accepted upon consultation and seeking approval of central monitoring office).

5-8 Lecturers and instructors minimum qualifications

5-8-1 Lecturers and instructors shall have completed a course in instructional techniques (TFT) in one of the training centers approved by the PMO, and:

5-8-1-1 for lecturing in theoretical subjects should;

5-8-1-1-1 Possess valid Second Officer certificate of competency for ships of GT≥500 engaged on unlimited voyages as well as having 6 months of seagoing service in that rank and 24 months of teaching experience in maritime institute; or

5-8-1-1-2 Possess valid Master certificate of competency for ships of GT<3000 engaged on Near Coastal voyages as well as having 12 months of seagoing service in that rank and nautical higher diploma and 12 months of teaching experience in maritime institute; or

5-8-1-1-3 Possess B.Sc degree in maritime science as well as having 12 months of seagoing service and 24 months of teaching experience in maritime institute.

5-8-1-2 for delivering practical training should;

5-8-1-2-1 In this training course, Lecturers can deliver practical training as well.

5-9 Assessment and Certification

5-9-1 upon successful completion of the examination which is carried out during and at the end of the course, the trainee will be awarded relevant course completion certificate issued by the approved training center;

5-9-2 then after trainee applies for the PMO competency assessments specified in above paragraph 5-6-1; and

5-9-3 finally, Seafarers' Examination and Documents Directorate of the PMO will issue a CoC for those candidates who have passed above mentioned PMO competency assessments and fulfill other relevant certification requirements set out in the "Codes of practices for issuing, revalidation and renewing certificates for seafarers".

5-10 revalidation/renewal of certificates

5-10-1 CoPs and CoCs will be revalidated and renewed in accordance with provisions of the Codes of practices for issuing, revalidation and renewing certificates for seafarers.

5-11 course approval

5-11-1 It will be carried out as per code of practice for approval and monitoring of maritime training courses.

6-Records

6-1 All records which present the implementation of the content of this code of practice.

7- References

7-1 STCW Convention and STCW Code;

7-2 IMO Model course number7.01

7-3 Codes of practices for issuing, revalidation and renewing certificates for seafarers; and

7-4 Code of practice for approval and monitoring of maritime training courses.

8- Appendixes

Nil