



سازمان بنادر و دریانوردی

دستورالعمل اجرایی برگزاری دوره آموزشی و آزمونهای شایستگی دریانوردی سمت

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

The Code of Practice for Conducting Second Officer on ships of Gross Tonnage (GT<500) engaged on Near Coastal Voyages Training Course and Competency Assessments

کد مدرک: P6-W90

شماره بازنگری	تاریخ بازنگری	شرح تغییرات (علت و محل)	تهیه کننده	تأیید کننده	تصویب کننده
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صفحه ۱ از ۱۵





سازمان آموزش و پرورش دریانوردی

دستورالعمل اجرایی برگزاری دوره آموزشی آت‌سزهای شناختی دریاوردی سمت افسر دوم بر روی کشتیهای با ظرفیت ناخالص کمتر از ۵۰۰- تونرهای نزدیک ساحل
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کد مدرک : P6-W90/3

شماره صفحه : ۲ (۱۵)

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دستورالعمل اجرایی برگزاری دوره آموزشی آزمونهای صلاحیت دریانوردی سمت افسر دوم بر روی کشتیهای با ظرفیت ناخالص کمتر از ۵۰۰- تونرهای نزدیک به ساحل

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مقدمه

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 نگهداری دریانوردان (STCW- as amended) مصوب مرداد ماه ۱۳۷۵ مجلس شورای اسلامی ایران و با عنایت به مقرر ۱۱/۳ کنوانسیون مذکور "دستورالعمل اجرایی برگزاری دوره آموزشی و آزمونهای شایستگی دریانوردی سمت افسر دوم بر روی کشتیهای با ظرفیت ناخالص کمتر از ۵۰۰ (GT<500) - سفرهای نزدیک به ساحل" را تدوین نموده و پس از تصویب هیأت عامل 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.





سازمان بازرسی دریانوردی

دستورالعمل اجرایی برگزاری دوره آموزشی و آزمونهای شایستگی دریانوردی سمت افسر دوم بر روی کشتیهای با ظرفیت ناخالص کمتر از ۵۰۰- تنرهای نزدیک ساحل

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۱- هدف از تدوین

هدف از تدوین این دستورالعمل ارائه حداقل نیازمندیهای برگزاری دوره آموزشی و آزمونهای شایستگی دریانوردی سمت افسر دوم بر روی کشتیهای با ظرفیت ناخالص 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 افسر دوم بر روی کشتیهای با ظرفیت ناخالص کمتر از ۵۰۰ (GT<500) - سفرهای نزدیک به ساحل ، کاربرد دارد.

۳- تعاریف

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

۱-۳ گواهی خدمت دریایی مورد تایید (Approved Seagoing Service/ Documentary Evidence)

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

۲-۳ گواهینامه شایستگی (Certificate of Competency)

به معنای گواهینامه صادره و یا شناسایی شده ای است که مطابق الزامات فصلهای ۲، ۳، ۴، و ۷ کنوانسیون برای فرماندهان، افسران و افسران مهندس الکترونیک صادر و یا تایید می شود و دارندهی قانونی آن محق به خدمت در مقام و عمل به وظایف مربوطه در سطح مسئولیت مشخص شده در آن است.

۳-۳ گواهینامه مهارت (Certificate of Proficiency)

به معنای گواهینامه ای به غیر از گواهینامه شایستگی صادر شده برای دریانورد است که الزامات فصلهای مرتبط با کنوانسیون را نشان می دهد و الزامات آموزشی، شایستگی ها یا خدمت دریایی مندرج در کنوانسیون را برآورده می نماید.

۴-۳ 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 استانداردهای دریانوردان می باشد.مدیر کل امور





مركز آموزش دریانوردی

دستورالعمل اجرایی برگزاری دوره آموزشی آواز عملی ناظمی دریانوردی ست. فروردین مرداد کشتیهای با ظرفیت نامناسب کمتر از ۵۰۰- تنرهای نزدیک به ساحل

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شماره صفحه : ۱۵ (۱)

دریانوردان نیز جزء دستگاه نظارت مرکز بوده و می تواند صدور مجوز فعالیت آموزش دریانوردی و نظارت بر مراکز آموزش دریانوردان را تایید نماید.

۳-۵ کشتی حمل مواد شیمیایی (Chemical Tanker)

به معنای کشتی است که برای حمل فلهی هر گونه فرآورده مایع فهرست شده در فصل ۱۷ آیین نامه بین المللی مواد شیمیایی فله ساخته یا سازگار می شود، و یا مورد استفاده قرار می گیرد.

۳-۶ افسر اول (Chief Mate)

به معنای افسری است که جانشین فرمانده کشتی می باشد و بر اساس مقرره ۱۱/۲ و مفاد مربوطه این دستورالعمل واجد شرایط بوده و در مواقع عدم توانایی فرمانده، مسئولیت فرماندهی کشتی را نیز بر عهده می گیرد.

۳-۷ 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.

۳-۸ شرکت کشتیرانی (Company)

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

۳-۹ 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.

۳-۱۰ افسر عرشه (Deck Officer)

به معنای افسری است که مطابق مفاد فصل دوم کنوانسیون صلاحیت دارد.

۳-۱۱ کارکرد (Function)

به معنای مجموعه ای از امور، وظایف و مسئولیت ها جهت انجام عملیات در کشتی، ایمنی جان اشخاص در دریا و حفاظت از محیط زیست که در آیین نامه STCW درج شده است می باشد.

۳-۱۲ گواهینامه عمومی اپراتور سیستم جهانی اضطرار و ایمنی دریانوردی

GMDSS General Operator Certificate (GMDSS GOC)





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شماره صفحه : ۴ از ۱۵

به معنای شخصی است که مطابق با الزامات مقرر ۴/۲ (IV/2) کنوانسیون STCW و بخش ب - ۴/۲ (B- ۱۷/2) بندهای ۲۹ الی ۳۶ آئین نامه STCW دارای صلاحیت است.

۳-۱۳ کاربرد مخابرات (GMDSS Radio Operator)

به معنای فردی است که بر اساس فصل IV کنوانسیون و مفاد دستورالعمل نحوه صدور، تمدید و تجدید گواهینامه های شایستگی و مهارت دریانوردان واجد شرایط باشد.

۳-۱۴ گواهینامه محدود اپراتور سیستم جهانی اضطرار و ایمنی دریانوردی

GMDSS Restricted Operator Certificate (GMDSS ROC)

به معنای شخصی است که مطابق با الزامات مقرر ۴/۲ (IV/2) کنوانسیون STCW و بخش ب - ۴/۲ (B- ۱۷/2) بندهای ۳۷ الی ۴۴ آئین نامه STCW دارای صلاحیت است.

۳-۱۵ ظرفیت ناخالص کشتی (Gross Tonnage)

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

۳-۱۶ آئین نامه ی امنیت کشتی ها (ISPS Code)

به معنای آئین نامه بین المللی امنیت کشتی ها و تسهیلات بندری (کد ISPS) که از ۱۲ دسامبر ۲۰۰۲ طی قطعنامه شماره ۲ کنفرانس دولهای متعاقد به کنوانسیون بین المللی جان اشخاص در دریا ۱۹۷۴ (SOLAS) به تصویب رسیده و ممکن است توسط سازمان بین المللی دریانوردی بر اساس اصلاحیه های بعدی تغییر یابد.

۳-۱۷ کشتی حمل گاز مایع (Liquefied Gas Tanker)

به معنای کشتی است که برای حمل فلهی هرگونه گاز مایع یا سایر فرآوردههای فهرست شده در فصل ۱۹ آیین نامه بین المللی کشتی های حمل گاز ساخته یا سازگار می شود، و یا مورد استفاده قرار می گیرد.

۳-۱۸ فرمانده (Master)

به معنای شخصی است که عهده دار فرماندهی کشتی می باشد.

۳-۱۹ گواهینامه سلامت پزشکی (Medical Fitness Certificate)

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

۳-۲۰ کشتی تجاری (Merchant Ship)





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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.

۳-۲۱ سفرهای نزدیک به ساحل (Near Coastal Voyages / NCV)

به معنای سفرهایی است که در نزدیکی سواحل هر کشور متعاقد، مطابق با مقرره ی I/3 کنوانسیون STCW و تعریف ارائه شده آن متعاقد انجام می شود. در ایران سفرهای نزدیک به ساحل 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 ۲۲ دقیقه شمال و ۵۹ درجه و ۴۸ دقیقه شرق «راس الحد- عمان» را به نقطه جغرافیایی دارای مشخصات ۲۵ درجه و ۴ دقیقه شمال و ۶۱ درجه و ۲۲ دقیقه شرق «گواتر- ایران» وصل می نماید) می باشد.

۳-۲۲ افسر (Officer)

به معنای عضوی از خدمه ی شناور به غیر از فرمانده است که بر اساس قوانین و مقررات ملی و یا بین المللی انتخاب شده باشد.

۳-۲۳ کشتی حمل مواد نفتی (Oil Tanker)

به معنای کشتی است که برای حمل فله ی نفت و فراورده های نفتی ساخته می شود و مورد استفاده قرار می گیرد.

۳-۲۴ دفترچه کارورزی در کشتی (On Board Training Record Book)

به معنای دفترچه کارورزی مورد تایید سازمان می باشد که آموزشهای عملی و تئوری دریانورد می بایست بر اساس مفاد مندرج در آن تکمیل گردد.

۳-۲۵ سطح عملیاتی (Operational Level)

به معنای سطحی از مسئولیت اطلاق می گردد که بعنوان افسر دوم (افسر ناوبر مسئول نگرهبانی)، افسر مهندس سوم (افسر مهندس مسئول نگرهبانی) و افسر مهندس الکترونیک یا به عنوان افسر مهندسی که وظیفه معینی در موتورخانه بدون خدمه به او محول گشته، یا بعنوان اپراتور رادیو و GMDSS، در کشتی ها خدمت می کند و همچنین در حیطه وظایف محوله و تحت نظر سطح مدیریت مربوطه، مراقبت، انجام و کنترل مستقیم تمام کارها را با روش مطلوب دارا می باشد.

۳-۲۶ کشتی مسافربری (Passenger Ship)

به معنای کشتی است که بر اساس مقرره ۲ کنوانسیون اصلاح شده سولاس بیش از ۱۲ مسافر حمل کند.

۳-۲۷ سازمان (Ports & Maritime Organization of Iran (Islamic Republic)

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



۲۸-۳ مقررات (Regulations)

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

۲۹-۳ منطقه دریایی A1 (Sea Area A1)

به معنای محدوده ای از دریا است که تحت پوشش حداقل یک ایستگاه ساحلی VHF با قابلیت هشدار دائم DSC باشد.

۳۰-۳ منطقه دریایی A2 (Sea Area A2)

به معنای محدوده ای خارج از منطقه A1 است که تحت پوشش حداقل یک ایستگاه ساحلی رادیو تلفنی MF بوده و همچنین قابلیت هشدار دائمی DSC در باند مربوطه را نیز دارا باشد.

۳۱-۳ منطقه دریایی A3 (Sea Area A3)

به معنای محدوده ای خارج از مناطق A1 و A2 می باشد و همچنین منطقه تحت پوشش ماهورهای اینمارست قرار داشته و قابلیت هشدار دائم در آن وجود داشته باشد.

۳۲-۳ منطقه دریایی A4 (Sea Area A4)

به معنای محدوده ای است که خارج از مناطق دریایی A1 ، A2 و A3 باشد.

۳۳-۳ خدمت دریایی (Seagoing Service)

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

۳۴-۳ افسر دوم GT>500 سفرهای نامحدود

به معنای افسر عرشه ای است که مسئولیت ناوبری و نگهداری (O.O.W) بر عملکرد ایمن کشتی را در زمان معینی بر عهده دارد و بر اساس مقرره II/1 کنوانسیون و مفاد مربوطه در دستورالعمل نحوه صدور، تمدید و تجدید گواهینامه های شایستگی و مهارت دریانوردان واجد شرایط باشد.

۳۵-۳ وظایف امنیتی (Security Duties)

به معنای تمامی مسئولیتهای و وظایف امنیتی روی کشتی ها مطابق با تعریف مندرج در کنوانسیون بین المللی جان اشخاص در دریا ، ۱۹۷۴ (اصلاح شده) و آیین نامه بین المللی امنیت کشتی و تسهیلات بندری (ISPS) می باشد.

۳۶-۳ افسر امنیتی کشتی (Ship Security Officer)





سازمان بازرسی دریانوردی

دستورالعمل اجرایی برگزاری دوره آموزشی آذین‌نامه‌نگی دریانوردی ست افسر دوم بر روی کشتیهای با ظرفیت ناخالص کمتر از ۵۰۰- تنزای نزدیک بر ساحل

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به معنای افسری است بر روی کشتی که در برابر فرمانده پاسخگو می باشد و توسط شرکت کشتیرانی به عنوان مسئول امنیتی کشتی انتخاب می گردد و وظایف وی شامل اجرا ، حفظ و نگهداری طرح امنیتی کشتی جهت ارتباط با افسر امنیتی شرکت کشتیرانی و افسر امنیتی تسهیلات بندری تعیین شده است

۳-۳۷ کنوانسیون (STCW Convention)

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

۳-۳۸ آئین نامه ی کنوانسیون (STCW Code)

به معنای آئین نامه ی آموزش، صدور گواهینامه ها و نگهداری دریانوردان (STCW) که طی قطعنامه ی شماره ۲ کنفرانس 1995 تصویب که ممکن است توسط سازمان بین المللی دریانوردی بر اساس اصلاحیه های بعدی تغییر یابد.

۳-۳۹ مرکز آموزشی (Training Center)

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

۳-۴۰ سفرهای نامحدود (Unlimited Voyages)

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

۴- مسئولیتها

۴-۱ مسئولیت بازرگری این دستورالعمل بر عهده دستگاه نظارت مرکز می باشد.

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

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

۴-۴ مسئولیت اجرای کامل دوره آموزشی بر اساس 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.





سازمان ناوبری دریانوردی

دستورالعمل اجرایی برگزاری دوره آموزشی و آزمونهای مانور در ناوگان دریانوردی ستاندر دوم بر روی کشتیهای با ظرفیت ناخالص کمتر از ۵۰۰- تن برای نزدیک به ساحل
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۶-۴- مسئولیت برگزاری آزمون بر اساس عناوین اعلام شده در بند ۱-۶-۵ بر عهده اداره امتحانات و اسناد دریانوردان (در تهران و یا بنادر) می باشد.

۵- روش اجرا :

۱-۵ هدف از برگزاری دوره آموزشی

هدف از برگزاری این دوره آموزشی ، آماده نمودن فراگیران برای کسب توانمندی های مندرج در ستون ۱ از جدول بخش ۱۱/۳- الف آیین نامه کنوانسیون STCW می باشد.

۲-۵ طول دوره

۱-۲-۵ طول دوره حداقل ۴۳۳ ساعت و بر اساس ۳۳۲ ساعت نظری (تئوری) ، ۲۱ ساعت عملی و ۸۰ ساعت تمرین (بدون احتساب مدت زمان آموزش کارورزی) می باشد.

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

۳-۵ تعداد شرکت کنندگان در دوره

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

۲-۳-۵ 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.

۴-۵ شرایط ورود به دوره

۱-۴-۵ داشتن حداقل ۱۸ سال سن

۲-۴-۵ دارا بودن گواهینامه سلامت پزشکی معتبر بر اساس دستورالعمل مصوب سازمان

۳-۴-۵ دارا بودن مدرک تحصیلی حداقل دیپلم کامل متوسطه (کلیه رشته ها) مورد تایید آموزش و پرورش

۵-۵ دانش ، درک و مهارت مورد انتظار

۱-۵-۵ توانایی برنامه ریزی و هدایت و راهبری کشتی و تعیین موقعیت

۲-۵-۵ توانایی برقراری و انجام نگهداری و دریانوردی ایمن

۳-۵-۵ توانایی برقراری ناوبری ایمن با بکارگیری از تجهیزات کمک ناوبری





سازمان مازور دریانوردی

دستورالعمل اجرایی برگزاری دوره آموزشی و آزمونهای صلاحیت دریانوردی سمت افسر دوم بر روی کشتیهای با ظرفیت نامناسب کمتر از ۵۰۰- نفرهای نزدیک به ساحل

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۴-۵-۵ توانایی عکس العمل و پاسخ در مواقع اضطراری

۵-۵-۵ توانایی پاسخ و عکس العمل به علائم اضطراری در دریا

۶-۵-۵ آشنایی و بکارگیری از زبان تخصصی دریایی (SMCP)

۷-۵-۵ توانایی ارسال و دریافت اطلاعات به وسیله علائم دیداری

۸-۵-۵ آشنایی با عملیات مانور کشتی

۹-۵-۵ توانایی نظارت بر بارگیری ، بارچینی ، مهار و تخلیه کالا و همچنین اقدامات ایمنی در نگهداری کالا در سفرهای دریایی

۱۰-۵-۵ توانایی بررسی و گزارش نقایص و صدمات وارده به انبار کالا ، درب انبارها و مخازن آب شور

۱۱-۵-۵ توانایی نظارت و جلوگیری از آلودگی محیط زیست دریایی

۱۲-۵-۵ توانایی حفظ و نگهداری قابلیت دریانوردی شناور

۱۳-۵-۵ آشنایی با قوانین دریایی

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 " افسر دوم بر روی کشتیهای با ظرفیت ناخالص کمتر از ۵۰۰ (GT<500) - سفرهای نزدیک به ساحل " به شرح ذیل می باشد.





مرکز آموزش دریانوردی

دستورالعمل اجرایی برگزاری دوره آموزشی و آزمونهای شایستگی دریانوردی سمت افسر دوم بر روی کشتیهای با ظرفیت ناخالص کمتر از ۵۰۰- سفرهای نزدیک بر ساحل

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۱-۶-۵ جدول نمایانگر تعداد سؤالات، مدت، نوع، حد نصاب قبولی و مواد امتحانی آزمونهای شایستگی سمت افسر دوم بر روی کشتیهای با ظرفیت ناخالص 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)	ملاحظات
۱	ناوبری ساحلی ، سطحی و سیستمهای الکترونیکی و کمک ناوبری	۵	۲/۵	کتبی	٪۶۵	1.1.1-1.1.2- 1.1.3-1.1.4- 1.1.5	
۲	کار با کالا و بار چینی	۵	۲/۵	کتبی	٪۵۰	2.1.1-2.2	
۳	تعداد و ساختمان کشتی	۶	۲/۵	کتبی	٪۵۰	3.2.1-3.2.2	تعداد ۳ سؤال ۵۰ نمره ساختمان ۳ سؤال ۵۰ نمره
۴	شفاهی / عملی / شبیه ساز	-	-	شفاهی / عملی / شبیه ساز	-	1.1.1.11-1.1.1.12- 1.1.1.13-1.1.6-1.2.1- 1.3.1-1.7.1-3.1.1- 3.3.1	در زمان آزمون شفاهی به همراه داشتن شناسنامه دریانوردی و دفترچه کارآموزی 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.





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دستورالعمل اجرایی برگزاری دوره آموزشی و آزمونهای ماکت دریایی است اندر دوم در روی کشتیهای با ظرفیت ناخالص کمتر از ۵۰۰- تونری نزدیک ساحل
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۲-۶-۵ حداقل مواد درسی دوره آموزش افسر دوم بر روی کشتیهای با ظرفیت ناخالص کمتر از ۵۰۰ (GT<500) - سفرهای نزدیک به ساحل در بخش انگلیسی این دستورالعمل می باشد.

۷-۵ امکانات مورد نیاز جهت برگزاری دوره

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

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

۲-۷-۵ 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).

۳-۷-۵ سالن سمعی و بصری و امکانات مورد نیاز برای تدریس زبان انگلیسی تخصصی و عمومی.

۴-۷-۵ 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.

۵-۷-۵ فیلم های آموزشی مرتبط در خصوص دوره.

۶-۷-۵ مدل کره زمین، مدل های مختلف بویه های دریایی، ماکت و مدل های مختلف شناورها با علائم شناسایی شناورها در روز و شب، ماکت و مدل های اسکله و حوضچه برای تمرین قوانین راه و پهلو گیری و جدا سازی از اسکله، ماکت کشتیها که شماتیک تجهیزات عرشه را نشان دهد.

- Photographs, drawings and plans illustrating various types of ship in view of constructional details.
- Photographs, drawings and plans to illustrate different types of ship.
- Examples of cargo plans for various types of ship.

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

Thermometers, Barometer, Marine Hydrometer, Magnetic Compass, Binnacle With Magnetic Compass/ Accessories and Sighting Devices, Azimuth Mirror, International Code of Signal and Flags and a set of Visual Signaling Equipment and Accessories (or a computer based system), SART, Line Throwing Apparatus and Pyrotechnics.

۸-۷-۵ دستگاه عمق یاب (Echo Sounder)، دستگاه GPS، دستگاه VHF، دستگاه NAVTEX، Weather، facsimile receiver and speed log (جایگزین نمودن نرم افزار مناسب برای شبیه سازی دستگاههای



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مندرج در این بند و یا استفاده از کشتی های مستقر در بندر با تجهیزات مربوطه جهت تشریح بصورت بازدید و با اخذ تأییدیه از دستگاه نظارت صادر کننده مجوز برگزاری مورد قبول می باشد).

۹-۷-۵ کارگاه ملوانی شامل تجهیزات: کارگاه با نیمکتها و میز کار مناسب برای اجرای آموزشهای عملی، یک عدد عمق یاب دستی دارای درجات مناسب، نردبان راهنما (Pilot Ladder) و وسایل ساخت آن، نمونه هایی از طنابهای الیافی، نمونه های از طنابهای سیمی (together with stoppers and various types of shackles)، پنج سری ابزار و متعلقات لازم برای گره زنی، خفت زنی و پلاس زنی، صندلی ملوانی (Bosun Chair)، داربست (Stage)، انواع قرقره ها، دو حلقه کنتر (Joining Shackle) با ابزار مناسب برای پیاده کردن / باز کردن آنها، طنابهای پهلویی و مهار (سیمی و الیافی)، دوارها و نگهدارنده های لازم برای اجرای آموزش عملی (Winch/ Windlasses and mooring Arrangements)، پنج عدد کاردک ملوانی، یک عدد ماشین تراشه برداری، نمونه هایی از رنگهای مختلف دریایی، انواع گوناگون برس و غلتک رنگ زنی، یک دستگاه رنگ پاش بدون هوا و مقدار کافی رنگ برای اجرای آموزش عملی، اتصالات طنابهای سیمی.

۸-۵ شرایط مدرسین و مربیان دوره:

۸-۱-۵ 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:

۸-۱-۱-۵ مدرسین

۸-۱-۱-۱-۵ دارای حداقل گواهینامه شایستگی معتبر افسر دوم بر روی کشتیهای با ظرفیت ناخالص $GT \geq 500$ سفرهای نامحدود با ۱۲ ماه خدمت دریایی در آن سمت و یا؛

۸-۱-۱-۲-۵ دارای مدرک تحصیلی لیسانس علوم دریایی با ۱۲ ماه سابقه تدریس مرتبط (در مراکز آموزش دریانوردی) و یا؛

۸-۱-۱-۳-۵ دارای حداقل گواهینامه شایستگی معتبر افسر دومی بر روی کشتیهای با ظرفیت ناخالص $GT < 500$ سفرهای نزدیک به ساحل با ۱۲ ماه خدمت دریایی در سمت افسر ناوبر مسئول نگهداری و دارا بودن مدرک تحصیلی لیسانس علوم دریایی و یا؛

۸-۱-۱-۴-۵ دارای حداقل گواهینامه شایستگی معتبر فرماندهی بر روی کشتیهای با ظرفیت ناخالص $GT < 500$ سفرهای نزدیک به ساحل با ۶ ماه خدمت دریایی در آن سمت و دارا بودن حداقل مدرک تحصیلی فوق دیپلم دریایی (ناوبری) و همچنین دارای یک سال سابقه تدریس مرتبط (در مراکز آموزش دریانوردی) باشند.

۸-۱-۲-۵ مربیان





سازمان ناورد دریانوردی

دستورالعمل اجرایی برگزاری دوره آموزشی و آزمونهای تأیید صلاحیت دریانوردی سمت افسر دوم بر روی کشتیهای با ظرفیت ناخالص کمتر از ۵۰۰- تری توئیج به سال
The Code of Practice for Conducting Second Officer on ships of Gross Tonnage
(GT<500)engaged on Near Coastal Voyages Training Course
and Competency Assessments

کد مدرک : P6-W90/3

شماره صفحه : ۱۵ از ۱۵

۱-۲-۱-۸-۵ دارای حداقل مدرک تحصیلی دیپلم دریایی (ناوبری) با حداقل ۲ سال خدمت دریایی و یا دارای گواهینامه معتبر ملوان عرشه با حداقل ۲ سال خدمت دریایی در آن سمت و بر روی کشتیهای تجاری باشند.

۵-۹ 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 ۱-۶-۵ این دستورالعمل به عمل آورند ؛ و

۳-۹-۵ نهایتاً اداره امتحانات و اسناد دریانوردان سازمان (در تهران و یا بنادر) 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 شایستگی و مهارت دریانوردان صادر می نماید.

۵-۱۰ شرایط تمدید / تجدید گواهینامه

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

۵-۱۱ روش تأیید دوره

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

۶-سوابق

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

۷-مراجع

۱-۷ کنوانسیون اصلاح شده STCW و آیین نامه مربوطه

۲-۷ مدل کورس سازمان بین المللی دریانوردی (IMO) شماره ۳/۰۷

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

۴-۷ دستورالعمل صدور مجوز و نظارت بر اجرای دوره ها در مراکز آموزش دریانوردی

۸-ضمانت

ندارد.








PMO

The Code of Practice for Conducting Second Officer on ships of Gross Tonnage (GT<500) engaged on Near Coastal Voyages Training Course and Competency Assessments

P6-W90

Revision No.	Date of revision	Comment on revision	Draft provider	approving amendments authority	endorsing amendments authority
03	28/07/2014	STCW Convention, as amended	Head of Seafarers' Standards' Directorate 	Director General of Seafarers' Affairs  H. Mirzaei	PMO's Deputy for Maritime Affairs 

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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 " The Code of Practice for Conducting Second Officer 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 Second Officer 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 Second Officer on ships of Gross Tonnage (GT<500) engaged on Near Coastal Voyages Training Course.

3-Definition

3-1 Approved 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.

3-2 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 Certificate of Proficiency (COP)

Means a certificate, other than a certificate of competency issued to a seafarer, stating that the relevant requirements of training, competencies or seagoing service in the STCW Convention have been met.

3-4 Central Monitoring Office

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

3-5 Chemical Tanker

Means a ship constructed or adapted and used for the carriage in bulk of any liquid product listed in chapter 17 of the International Bulk Chemical Code.

3-6 Chief Mate

Means the officer next in rank to the master and upon whom the command of the ship will fall in the event of the incapacity of the master.

3-7 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





3-8 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.

3-9 Course Completion Certificate or Documentary Evidence

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

3-10 Deck Officer

Means an officer qualified in accordance with the provisions of chapter II of the STCW Convention.

3-11 Function

Means a group of tasks, duties and responsibilities, as specified in the STCW Code, necessary for ship operation, safety of life at sea or protection of the marine environment.

3-12 GMDSS General Operator Certificate (GMDSS GOC)

Means a person who is qualified in accordance with the provisions of regulation IV/2 of the STCW Convention and section B-IV/2, paragraphs 29 to 36 of the STCW Code

3-13 GMDSS Radio Operator

Means a person who is qualified in accordance with the provisions of chapter IV of the STCW Convention.

3-14 GMDSS Restricted Operator Certificate (GMDSS ROC)

Means a person who is qualified in accordance with the provisions of regulation IV/2 of the STCW Convention and section B-IV/2, paragraphs 37 to 44 of the STCW Code

3-15 Gross Tonnage

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

3-16 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.

3-17 Liquefied Gas Tanker

Means a ship constructed or adapted and used for the carriage in bulk of any liquefied gas or other product listed in chapter 19 of the International Gas Carrier Code.

3-18 Master

Means the person having command of a ship

3-19 Medical Fitness Certificate



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

3-20 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

3-21 Near-Coastal Voyages (NCV)

Means voyages between ports situated in the Persian Gulf and Gulf of Oman (positions from LAT 22 0 32' N 059 48' E to 25 0 04' N 061 0 22' E) or between Caspian Sea ports.

3-22 Officer

Means a member of the crew, other than the master, designated as such by national law or regulations or, in the absence of such designation, by collective agreement or custom.

3-23 Oil Tanker

Means a ship constructed and used for the carriage of petroleum and petroleum products in bulk.

3-24 On Board Training Record Book

Means on board training record book approved by Port and Maritime Organization in which practical and theoretical training of seafarer shall be fulfilled according to its content.

3-25 Operational Level

Means the level of responsibility associated with serving as second officer (officer in charge of navigational watch), third engineer officer (officer in charge of engineering watch) and electro technical officer or as designated duty engineer for periodically unmanned machinery spaces or radio operator and GMDSS, on board a seagoing ship, and also maintaining direct control over the performance of all functions within the designated area of responsibility in accordance with proper procedures and under the direction of an individual serving in the management level for that area of responsibility.

3-26 Passenger Ship

Means a ship as defined in the International Convention for the Safety of Life at Sea, 1974, as amended.

3-27 PMO

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

3-28 Regulations

Means regulations contained in the annex to the STCW Convention

3-29 Sea Area A1

Means an area within the radiotelephone coverage of at least one VHF coast station in which continuous DSC alerting is available, as may be defined by a Contracting Government;

3-30 Sea Area A2





Means an area, excluding sea area A1, within the radiotelephone coverage of at least one MF coast station in which continuous DSC alerting is available, as may be defined by a contracting government;

3-31 Sea Area A3

Means an area, excluding sea areas A1 and A2, within the coverage of an INMARSAT geostationary satellite in which continuous alerting is available;

3-32 Sea Area A4

Means an area outside sea areas A1, A2 and A3;

3-33 Seagoing service

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

3-34 Second Officer

Means officer in charge of a navigational watch qualified in accordance with the relevant provisions of the Code of practice for issuing, revalidation, renewal certificates of competency and proficiency for seafarers.

3-35 Security duties

Include all security tasks and duties on board ships as defined by chapter XI-2 of the International Convention for the Safety of Life at Sea (SOLAS 1974, as amended) and the International Ship and Port Facility Security (ISPS) Code

3-36 Ship Security Officer

Means the person on board the ship, accountable to the master, designated by the Company as responsible for the security of the ship, including implementation and maintenance of the ship security plan and for liaison with the company security officer and port facility security officers.

3-37 STCW Convention

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

3-38 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.

3-39 Training center

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

3-40 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.
- 4-6 Seafarers' Examination and Documents Directorate (in Tehran or Ports) is responsible to conduct the competency assessments mentioned in paragraph 5-6-1 of this code.

5-Procedure:

5-1 course objective:

The objective of this Training Course is to prepare trainees to achieve competencies set out in the column 1 of table A-II/3 of the STCW Code.

5-2 course duration:

- 5-2-1 A minimum of 332 hours theoretical, 21 hours practical and 80 Hours exercises for each trainee (total of 433 hours).
- 5-2-2 Maximum daily contact hours for each trainee are 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 central monitoring office.

5-4 Course entry requirement:

The course trainees should, at least;

- 5-4-1 be 18 years old
- 5-4-2 hold valid medical fitness certificate issued by a medical practitioner recognized by the PMO;
and;
- 5-4-3 hold general education diploma.

5-5 Expected Knowledge, Understanding and Proficiency:

- 5-5-1 Knowledge of planning and conducting of a passage and for determining position;
- 5-5-2 Proficiency in maintaining a safe navigational watch;
- 5-5-3 Ability to use of navigational aids to maintain safety of navigation;
- 5-5-4 Knowledge of responding to emergencies;
- 5-5-5 Knowledge of responding to a distress signal at sea;
- 5-5-6 Ability to use IMO standard marine communication phrases;
- 5-5-7 Ability to transmission and receipt of information by visual signaling;
- 5-5-8 Ability to maneuvering the ship;
- 5-5-9 Knowledge of monitoring the loading, stowage, securing and unloading of cargoes and their care during the voyage;
- 5-5-10 Knowledge of inspecting and reporting defects and damage to cargo spaces, hatch covers and ballast tanks;
- 5-5-11 Knowledge of compliance with pollution-prevention requirements;
- 5-5-12 Ability to maintaining the sea-worthiness of the ship;
- 5-5-13 Ability to monitoring compliance with legislative requirements;



5-6 Course syllabi and competency assessment:

5-6-1 Competency assessment details;

No.	Title	Number of Question	Time (hours)	Type	Pass mark	Subjects	Remarks (if any)
1	Coastal Navigation & Electronic Navigational Aids	5	Maximum 2.5 hours	written	65%	1.1.1-1.1.2-1.1.3-1.1.4-1.1.5	
2	Cargo Handling & Stowage	5	Maximum 2.5 hours	written	50%	2.1.1-2.2	
3	Ship Stability & Construction	6	Maximum 2.5 hours	written	50%	3.2.1-3.2.2	Ship Stability and Construction each part 3 question and 50 marks
4	Oral	-	-	Oral/practical/simulator or	To the discretion of assessor	1.1.1.11-1.1.1.12-1.1.1.13-1.1.6-1.2.1-1.3.1-1.7.1-3.1.1-3.3.1-	At the time of oral examination seaman book and record book must be presented

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

5-6-2 Course minimum syllabi

Function: 1. Navigation at the operational level

Competence: 1.1 Plan and conduct a passage and determine position

1.1.1. Terrestrial and coastal navigation

- Ability to determine the ship's position by use of:
 - .1 landmarks
 - .2 aids to navigation, including lighthouses, beacons and buoys
 - .3 dead reckoning, taking into account winds, tides, currents and estimated speed
- ability to use nautical charts, and publications, such as sailing directions, tide tables, notices to mariners, radio navigational warnings.

.1 Definitions – Earth 4hrs (T) + 0hrs (P) + 0hrs (E).

Understanding of;

- Earth's poles, 'equator' and 'meridians'.
- 'Latitude' and 'parallels of latitude', 'prime meridian' and 'longitude'.
- Position on the earth in terms of latitude and longitude.
- 'Difference of latitude' and 'difference of longitude'.
- Variation in the length of the sea mile, nautical mile, cable and knot.





.2 Charts

6hrs (T) + 0hrs (P) + 2hrs (E).

Familiarity with;

- Chart projections, Mercator chart, properties of marine navigational chart, natural scale of chart.
- Production of nautical charts, information on nautical charts, chart numbering system, chart correction system.
- Requirement of a navigational chart appropriate for marine navigation.
- Main information shown on a navigational chart.
- Different types of charts and their use.
- 'Scale' on a Mercator chart: scale of longitude, scale of latitude and natural scale.
- Fundamental practices to be followed when using and working with navigational charts.

Ability to;

- Obtain the magnetic variation for the observer's position, using Isogonal lines or other information on the chart.
- Apply variation to the error of the magnetic compass to find the deviation for the direction of the ship's head.
- Calculate compass error and gyro error from transit bearings and bearings to distant fixed objects.

.3 Datums

4hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- Rotation of the earth about its axis.
- Directions on the earth's surface.
- Direction of the ship's head on a gyro compass.
- Direction of the ship's head on a magnetic compass (compass course).
- Difference between bearing and course.
- various notations of indicating direction :
 - 'Three-figure', 'relative', and the conversion from one to another.

.4 Distance

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

Understanding of;

- That the latitude scale along the nearest latitude/mean latitude is used as the scale of distance on a Mercator chart.

Ability to;

- Measure the distance between two positions on a Mercator chart.

.5 Position Lines and Position On Charts

6hrs (T) + 0hrs (P) + 6hrs (E).

Understanding of;

- The methods used to obtain simultaneous cross bearings with least error.
- Different methods of obtaining position lines.
- Fix, 'dead reckoning position (DR)' and 'estimated position' (E.P) and fixed position.
- Different methods of obtaining a fix.
- 'Cocked hat' and its likely causes.
- set, rate, drift, leeway, leeway angle, track, track angle, track made good, heading (ship's head), course to steer, water track, ground track, speed made good, distance made good, steaming speed.





Ability to;

- Plot 'fixes' using position lines obtained by different methods – visual bearing, radar range of a charted object, transits.
- Plot a DR position on the chart given the start position, course and distance.
- Define positions on charts using latitude and longitude, and bearing and distance from a charted object.
- Measure courses and distances between positions on a chart.
- Measure bearings on charts.
- Lay off true bearings and courses on charts.
- Illustrate and describes the standard symbols and terminology to be used on charts for chart work.
- Define and Plot different position line.
- Obtain radar distance off a charted object and plots the position circle on a chart.

.6 Sailings (Plane sailing)

4hrs (T) + 0hrs (P) + 4hrs (E).

Knowledge of;

- 'Departure' and the relationship to difference of longitude.
- Meaning of and derives 'mean latitude'.
- Why the plane sailing formula cannot be used in case of large distances.
- Why the natural scale is true only in one latitude.

Understanding of;

- 'True course' and 'rhumb line'.

Familiarity with;

- The relationship between departure and difference of longitude in cases involving a change of latitude, by using mean latitude.
- The layout of a traverse table and its use.

Ability to;

- Derive the parallel sailing formula.
- Uses the parallel sailing formula :
 - $\text{Departure} = \text{difference of longitude} \times \text{cosine of latitude}$
- Calculate the distance between two places on the same parallel of latitude.
- Calculate the difference of longitude for a given distance run along a parallel of latitude.
- Derive the final position after sailing along a parallel of latitude.
- Calculate the correct departure to use in a plane sailing problem.
- Derive the plane sailing formula.
- Use plane sailing formula in practical examples.
- Use the traverse tables to solve parallel and plane sailing problems.
- Use of the parallel sailing formula, plane sailing formula and traverse tables to calculate the:
 - Distance between two places on the same parallel of latitude
 - The final position after sailing along a parallel of latitude
 - Rhumb line course and distance between two positions
 - Final position after sailing along a rhumb line for a given distance

.7 Chart work Exercises

8hrs (T) + 0hrs (P) + 24hrs (E).

Knowledge of;



- How to find the actual set, drift and rate of current from two fixes.
- How to find the estimated position when a current is experienced.
- How to find the course and distance made good in the above objective.

Understanding of;

- 'True north', magnetic north', 'compass north' and 'gyro north'.

Ability to;

- Ability in chart work; deviation from table and variation from charts.
- Converting true course to compass course and vice versa, compass error by transit bearing.
- Applying compass error to the ship's head and compass bearings to convert to true.
- Laying true bearings of charted objects in chart.
- Measuring distance between two positions, position circle by radar distance of a charted object.
- Plot Position by cross bearings, position by bearing and distance off.
- Plotting "DR" and "EP" on charts, position by bearing.
- Course, speed, and distance made good with tidal stream or current, course to steer allowing for tidal stream or current, set, rate and drift, set and rate of tidal stream or current from charts, set and rate of tidal stream or current from DR and fixed positions.
- Lay off true course between two positions.
- Find the true course and distance between two positions.
- Calculate the speed to order between two positions given the time available.
- Calculate the time required to steam between two positions along a track given the speed of the ship.
- Lay off true bearings and measures true bearings on charts.
- Plot a DR given starting position and course a speed through the water.
- Plot an EP, given current data in addition to the information given in the above objective.
- Calculate the actual set and rate of tidal stream or current from DR and 'fix' position.
- Find the course and distance made good with a tidal stream.
- Find the course to steer allowing for tidal stream.
- Find the set and rate of current from charts.
- Find variation from the charts.
- Use of leading lines and clearing lines to follow a predetermined track.
- Calculate true course from compass course.
- Calculate compass course from true course.
- Apply gyro error to convert gyro course into true course and vice versa.

.8 Information from Charts, List Of Lights and Other Publications

4hrs (T) + 0hrs (P) + 4hrs (E).

Knowledge of;

- Chart symbols and abbreviations, identifications, characteristics and range of lights, computing visibility of lights, depth soundings, depth contours, and nature of bottom, coast line contours, bottom topography, and tidal information on charts.
- The general principles regarding the use of navigational lights found on the coast: light arcs on charts, sector lights, colored lights, number and details of lights on charts.
- The statutory requirement for the carriage of charts and navigational publications on board a merchant ship.
- The information contained in navigational publications carried on board explains their use – admiralty chart catalogue, sailing directions, list of lights, admiralty list of radio signals, tide tables, notices to Mariners, radio navigational warnings.
- How navigational warnings are transmitted: NAVTEX, VHF.





- How charts and navigational publications are kept up to date on board, with particular reference to the use of notices to mariners, navigational warnings and the chart correction log in this regard.
- The requirement of a chart appropriate for marine navigation.

Understanding of;

- Detail of the contents of notices to mariners in Persian Gulf, Oman Sea and Caspian Sea.

Familiarity with;

- Lists the information shown on a navigational chart.

Ability to;

- Use information from charts, list of lights, and list of radio signals, tide tables, notices to mariners, navigational warnings, relevant nautical publications, and publication correcting system.
- Recognize; suitable passages, approaches and anchorages in good and restricted visibility, traffic lanes and separation zones, danger of relying on floating navigational aids.
- Recognize the information that can be obtained from navigational publications normally found on the bridge of a merchant ship.
- Identify the different characteristics of navigational lights.
- Recognize and demonstrates the use of the symbols and abbreviations on a chart, especially lighthouses, buoys, beacons, radio beacons and other navigational marks, and navigational dangers.
- Identify the characteristics and range of lights.
- Recognize traffic lanes and separation zones.

.9 Tides

8hrs (T) + 0hrs (P) + 12hrs (E).

Knowledge of;

- The basic theory of tides and the various tide raising forces.
- The relationship between tides and the phases of the moon.

Understanding of;

- The meaning of : 'high water', 'low water', 'height of tide', 'range', 'duration', 'tidal oscillation', 'chart datum', 'spring tide', neap tide', 'mean high water springs', 'mean low water springs', 'mean low water neaps'.
- Tidal levels, charted heights and drying heights.
- That tides are the vertical oscillation of the surface of the sea due to tide raising forces.
- That daily predictions are given in the tide tables.
- The coverage, layout and contents of the admiralty tide tables.
- 'Standard' and 'secondary ports' in Persian Gulf and Oman Sea.
- That soundings and charted heights have to be corrected for the height of tide.

Ability to;

- Use the tide tables to obtain daily predictions at standard ports in Persian Gulf and Oman Sea.
- Calculate the spring and neap ranges for standard ports in Persian Gulf and Oman Sea.
- Find the time at which the tide reaches a specified height or the height of tide at a given time.
- Find the predicted time and height of high and low water at standard and secondary ports in ATT (Admiralty Tide Table) in Persian Gulf and Oman Sea.
- Find the time at which the tide reaches a specified height or the height of tide at a given time at standard and secondary ports in ATT (Admiralty Tide Table) in Persian Gulf and Oman Sea.





.10 Passage Planning 4hrs (T) + 0hrs (P) + 4hrs (E).

Understanding of;

- The danger of placing implicit reliance on floating navigational marks.
- The danger of approaching navigational marks too closely.
- The use of clearing and leading marks in passage planning.
- The basic principles of passage planning:
 - Various publications to be consulted when planning a passage – making a general decision on the track to be followed.
 - Factors to be taken into account while planning the passage which should be from 'berth to berth'.
 - Information to be noted on the charts and for quick reference.
 - Plan alternative tracks at critical areas.
 - Consider tactics to be used when the actual time of departure is known.
 - How route monitoring can be done and corrective action taken for any deviation noticed from the planned track.
- Use of various charts in planning a passage through the important traffic areas especially Persian Gulf area.
- Passage techniques to be used in;
 - Restricted waters by day and night using terrestrial observations in conjunction with appropriate charts, sailing directions, list of lights, and other publications
- How to plan and conduct navigation;
 - In traffic separation schemes and in areas near them
 - In areas of extensive tidal effect
 - In areas of strong winds and heavy weather

Ability to;

- Obtains and appraises information from navigational publications including sailing directions, notices to mariners, radio navigational warnings.

.11 Vessel Traffic Services (VTS) 2hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The purpose of vessel traffic services (VTS);
 - The normal procedure of joining, navigating and leaving a VTS.
 - Reporting points established within a VTS where all ships have to report when passing through.

.12 Keeping A Log 2hrs (T) + 0hrs (P) + 0hrs (E).

Understanding of;

- Rules, regulations, and common practice of keeping a navigational and voyage records during passage, coastal and in port.

.13 Buoyage System 8hrs (T) + 4hrs (P) + 0hrs (E).

Knowledge of;

- The principles and rules of the international association of lighthouse authorities (IALA) maritime buoyage system, system 'A'.





1.1.2. Electronic systems of position fixing and navigation

- Ability to determine the ship's position by use of electronic navigational aids

.1 Global Navigational Satellite Systems (GNSS) and GPS system. 2hrs (T) + 2hrs (P) + 0hrs (E).

Knowledge of;

- The basic principles of the global positioning system.
- The system configuration.
- The various errors of the GPS.
- The setting up procedure and operates a GPS receiver.
- The advantages and limitations of GPS.

Ability to;

- Operate a shipborne satellite fixing position receiver.

.2 DGPS –Differential GPS 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The basic principle of Differential GPS.
- The limitation of the DGPS receiver.

1.1.3. Echo-sounders

- Ability to operate the equipment and apply the information correctly

.1 Echo- Sounders 4hrs (T) + 2hrs (P) + 0hrs (E).

Understanding of;

- The basic principles of marine echo-sounding equipment.
- The main components on a simple block diagram of an echo sounder, and the function of each.
- The errors arising due to trim, heel and transducer separation (Pythagoras error), and incorrect stylus speed.
- The importance of the echo sounder as a navigational aid for safe navigation.
- The importance of operating the echo sounder when making landfall, in and when approaching shallow waters.
- That the echo sounder shows the depth below the keel.

Familiarity with;

- The causes of inaccuracies to instrument or scale error and their likely magnitude and measures that may be taken to eliminate them.
- The performance standards required of the echo sounder to be fitted on board a merchant ship.
- Check and test as recommended by the manufacturer and operates the echo sounder in accordance good navigational practice.

Ability to;

- Operate a typical echo sounder and demonstrates basic user maintenance, e.g. Clean platen, change paper, change and adjust stylus.

.2 Speed Logs 2hrs (T) + 0hrs (P) + 0hrs (E).



Familiarity with;

- The operating procedures for speed logs.
- The precautions to be taken and performance checks and tests required to be done, in accordance with the manufacturer's recommendation and good navigational practice.
- The different types of logs that have been in existence.
- The difference between ground-reference speed and water-reference speed.
- The accuracies of the various systems.
- The main error sources on the various types of logs.

1.1.4. Compass – magnetic and gyro

- **principles of magnetic and gyro-compasses**
- **Ability to determine errors of the magnetic and gyro-compasses, using terrestrial means, and to allow for such errors**

.1 The Magnetism of the Earth and the Ship's Deviation

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

Familiarity with;

- The theory of magnetism as applied to ferromagnetic materials.
- The magnetic field of the earth.
- 'Magnetic poles', 'magnetic equator' and 'magnetic latitude'.
- That deviation changes with the heading of the ship.
- 'Magnetic variation' and why it is slowly changing quantity.
- Simple magnet, its poles and the laws of attraction and repulsion.
- The magnetic field around a magnet.

.2 The Magnetic and Gyro Compass

4hrs (T) + 2hrs (P) + 0hrs (E).

Familiarity with;

- The basic principle and operation of Magnetic and Gyro Compass.
- Method of calculating error of compass by means of terrestrial bearing and applying error.
- How to remove an air bubble from the compass bowl.
- Compass and its repeaters.
- Azimuth mirror/circle and method of taking bearing.
- 'Variation' and how it is named.
- 'Deviation' and how it is named.
- Why regular comparison of standard compasses, steering compass and gyro compass should be made.
- That the approximate error of the standard compass can be obtained by comparison with the gyro compass if no other means is available.

1.1.5. Steering control system

- **Steering control systems, operational procedures and change-over from manual to automatic control and vice versa. Adjustment of controls for optimum performance.**

.1 The Automatic Pilot

4hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The use and principle of the automatic pilot systems and its advantages – reduce work load – saving fuel.
- The various controls on the automatic pilot and their function.





- The operating procedures and procedures for change-over from automatic to manual steering and vice versa.
- The functions of the manual settings.
- The adjustment of the manual controls for optimum performance.
- The regulations regarding the use of the automatic pilot.
- The performance standards laid down for automatic pilots.
- The need for regular checking of the automatic pilot to ensure that it is steering the correct course.
- The course monitor and the off-course alarm.
- The other alarms fitted to the system.
- Wheel orders and reporting.
- Types of steering control systems, emergency controls.
- That automatic pilot should be tested manually at least once per watch.
- The factors to take into account regarding the changeover to manual control of steering in order to deal with weather, sea, traffic conditions, intended maneuvers and other potentially hazardous situations.
- That the automatic pilot should be included in the steering gear testing prior to the ship's departure.

1.1.6. Meteorology

- Ability to use and interpret information obtained from shipborne meteorological Instruments.
- Characteristics of the various weather systems, reporting procedures and recording systems.
- Ability to apply the meteorological information available.

1 Ship Borne Meteorological Instruments 2hrs (T) + 1hrs (P) + 0hrs (E).

Familiarity with;

- The principle of; Stevenson screen, hygrometer, anemometer, aneroid barometer.
- The different instruments on board for the measurement of air temperature, sea temperature, dew point and wind speed.

Ability to;

- Read and apply necessary correction where appropriate to the atmospheric pressure from barometers, thermometers, wind speed, anemograph.

2 The Atmosphere, Its Composition and Physical Properties 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- 'Dew point' and 'relative humidity', 'absolute humidity' and 'vapour pressure'.
- 'Water vapour' and the properties of water vapour in the atmosphere.
- 'Evaporation', 'condensation', 'latent heat of vaporisation'.

3 Atmospheric Pressure and wind 2hrs (T) + 0hrs (P) + 0hrs (E).

Understanding of;

- The surface wind circulation around high and low pressure centers.
- That atmospheric pressure acts in all directions.
- That atmospheric pressure decreases with height above sea level.
- That the unit of pressure is N/m^2 and ; $1 \text{ millibar} = 10^{-3} \text{ bar} = 10^2 \text{ N/m}^2$





- That 1 hectopascal (hpa) = 1 millibar (mb).
- That atmospheric pressure at sea level normally varies between 940 mb and 1050 mb.
- That the average pressure at sea level is 1013.2 hpa (mb).
- That the surface pressure rises if air is added to the column above the surface, and vice versa.
- The method of estimating the strength of the wind from the appearance of the sea surface, using the beaufort wind scale.
- The difference between true wind and apparent wind.

Familiarity with;

- 'Isobar'.
- 'Wind'.
- Apparent and true wind, true wind velocity by vector diagram.

.4 Cloud And Precipitation 2hrs (T) + 0hrs (P) + 0hrs (E).

Understanding of;

- Formation of cloud, cloud classification, lightning and thunder, cloud movement and changes.

Familiarity with;

- The ten basic cloud types and their probable base heights.
- 'Cloud and precipitation'.
- Formation of precipitation, 'rain'.

.5 Visibility 2hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The formation of fog, seasons and reasons for its dispersal.
- The methods of estimating the visibility at sea, by day and night and the difficulties involved.

Familiarity with;

- That visibility is reduced by the presence of particles in the atmosphere near the earth's surface.
- 'Fog', 'mist' and 'haze' and their effect on visibility at sea.

.6 The Wind and local wind 2hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- Local winds and monsoon in the Persian Gulf, Oman Sea and Caspian Sea.
- The formation of Anabatic and Katabatic winds.
- The concept of horizontal temperature differences to formation of land and sea breezes.

.7 Anticyclones, Depression and Other Pressure Systems 1hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- The 'anticyclone' and 'Depression' and weather associated with it.

Understanding of;

- 'Source region of air mass'.





- 'Warm front', 'cold front'.

.8 Weather Services For Shipping

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

Knowledge of;

- The sources of weather information available to shipping including NAVTEX, VHF, internet and email in the Persian Gulf, Oman Sea and Caspian Sea.
- The type of information received by a facsimile machine and any other means on board.
- The services provided for storm warnings.

Competence: 1.2 maintain a safe navigational watch

1.2.1. Watchkeeping

- Content, application and intent of the international regulations for preventing collisions at sea, 1972, as amended.
- Principles to be observed in keeping a navigational watch.
- The use of information from navigational equipment for maintaining a safe navigational Watch.
- Blind pilotage techniques.
- The use of reporting in accordance with the general principles for ship reporting systems and with VTS procedures.

.1 The Content, Application and Intent of COLREG 72 (As Amended) Including ANNEXES. 20 Hrs (T) + 10hrs (P) + 0hrs (E).

Understanding of;

- The application of the rules as set out in Rule 1.
- The term 'traffic separation scheme'.
- The responsibility to comply with the rules as set out in Rule 2.
- Cites examples of precautions which may be required by the ordinary practice of seamen or by the special circumstances of the case.
- Examples of circumstances which may make a departure from the rules necessary.
- The general definitions which apply throughout the rules.
- The term 'vessel constrained by her draught'.
- Distinguishes between 'under way' and 'making way'.
- 'A proper look-out' and interprets the intent of 'full appraisal of the situation and the risk of collision'.
- Reporting during look out duties.
- The use of radar in the context of Rule 5.
 - what is meant by a safe speed
 - with reference to court cases, how 'proper and effective action' and 'within a distance appropriate to the prevailing circumstances and conditions' may be interpreted
 - the factors to be taken into account in determining a safe speed
 - how the use of radar affects the determination of safe speed
- What is meant by risk of collision.
 - the proper use of radar equipment in determining whether a risk of collision exists
 - the dangers of making assumptions on the basis of scanty information, citing examples from clear weather as well as the use of radar
 - using examples from court cases, how failure to plot may lead to a lack of appreciation of a developing situation
- Using examples from court decisions, the following actions to avoid collision referred to in Rule 8.
 - positive action in ample time large enough to be readily apparent



- alteration of course alone
- passing at a safe distance
- checking the effectiveness of action taken
- reduction of speed
- taking all way off
- An understanding of Rule 9 by:
 - the terms 'narrow channel' and 'fairway'
 - how to proceed along the course of a narrow channel
 - the navigation of small craft and sailing vessels in a narrow channel
 - the restrictions on crossing the channel or fairway describing the conduct of vessels engaged in fishing
 - the procedure for overtaking in a narrow channel
 - the actions to be taken on nearing a bend in a narrow channel or fairway
- 'Traffic lane', 'separation line', 'separation zone', 'inshore traffic zone'.
- How to navigate in a traffic separation scheme with reference to:
 - entering and leaving the traffic separation scheme
 - entering and leaving traffic lane
 - crossing lanes
 - the use of inshore traffic zones
 - crossing separation lines or entering separation zones other than when crossing, joining or leaving a lane
- The requirements for vessels:
 - navigating in areas near the terminations of traffic separation schemes
 - anchoring
 - not using a traffic separation scheme
 - engaged in fishing
- That a vessel of less than 20 metres in length or a sailing vessel must not impede the safe passage of a power-driven vessel following a traffic lane.
- That the exemptions for vessels restricted in their ability to manoeuvre when engaged in an operation for the.
 - maintenance of safety of navigation
 - laying, servicing or picking up of a submarine cable
- The meaning of 'precautionary area'.
- 'Deep water route' and states describes for whom such a route is intended.
- What is meant by 'vessels in sight of one another'.
- With the use of models displaying proper signals or lights, a navigation light simulator or otherwise, the proper action to take to avoid collision with other vessels in sight.
- How to decide when a vessel is an overtaking vessel.
- Compares and analyses the various avoiding actions which may be taken by an overtaking vessel.
- The application of Rule 14, Head-on Situation.
- Why the give-way vessel in a crossing situation shall, if the circumstances admit, avoid crossing ahead of the other vessel.
- The application of Rule 15 when crossing narrow channels and traffic lanes.
- How Rule 16 and Rule 8 relate regarding the action by a give-way vessel.
- The position of stand-on vessel in cases where a risk of collision exists between more than two vessels.
- How to decide when to take avoiding action as stand-on vessel.
- The actions which may be taken by the stand-on vessel.
- The avoiding action which must be taken by the stand-on vessel.
- That a potential collision situation may be divided into the following four stages:
 - at long range, before risk of collision exists and both vessels are free to take any action



- risk of collision applies, the give-way vessel is required to take action and the other vessel must keep her course and speed
- the give-way vessel is not taking appropriate action
- collision cannot be avoided by the action of the give-way vessel alone
- The responsibilities between vessels with reference to Rules 18 and 3.
- The application of Rule 19.
- Compares Rule 6 and Rule 19 regarding the determination of safe speed.
- How courts have interpreted 'a close-quarters situation'.
- How courts have interpreted 'navigate with extreme caution'.
- Using a manoeuvring board or radar simulator, to determine risk of collision and the proper action to take to avoid collision in restricted visibility.
- The application of the rules concerning Lights and shape.
- The definitions in Rule 21.
- The visibility of lights as prescribed by Rule 22.
- The lights and shapes carried by any type of vessel and the operation or circumstances signified by them, including the additional signals for fishing vessels fishing in close proximity.
- The positioning, spacing and screening of lights.
- The shapes required by the rules.
- The sound signals to be used by vessels in sight of one another.
- The sound signals to be used by vessels in or near an area of restricted visibility.
- The use of signals to attract attention.
- The distress signals set out in Annex IV of COLREG 72.

.2 Principles in Keeping A safe Navigational Watch (Watchkeeping). 6hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The principles of navigational watchkeeping at sea, and watchkeeping at anchor and port.
- Method of position fixing at appropriate intervals.
- Maintaining course as appropriate.
- Monitoring traffic in the vicinity by plotting or other methods.
- All bridge equipment and their use, course recorders, echo sounders.
- steering control systems, including automatic pilot, operational procedures and change over from manual to automatic and vice-versa.
- The action in the event of failure of bridge control, telegraph or steering
- Emergency steering arrangements.
- The proper helm orders to be given when conning the ship.
- The contents of the muster list and how to make it.
- The organizational procedures for emergency parties and drills.
- The duties of emergency teams, command team, back up team, engine room emergency team, first aid team, and team to assemble passengers and team to prepare survival craft.
- The actions to be taken in case of fires on board
- The shut down and isolation of power plant and equipment
- Fire and safety plans.
- The correct use of distress signals and the penalties for misuse.
- The precautions to be taken in port and use of anti-pollution equipment to prevent the pollution of the marine environment.
- The fundamentals of watertight integrity, and the closing of all openings including hatch covers, access hatches and watertight doors.
- The purpose of flag state and port state control.





.3 General Duties of the OOW 4hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The duties prior to proceeding to sea, making harbour, entering a dock, berthing alongside quays, jetties, or other ships, and securing to buoys.
- How to keep a deck log in port and at sea.
- The preparations to taken before the onset of heavy weather.
- Duties in connection with protection of the marine environment in port.
- The various equipment on the bridge and their use.
- Conning and engine orders given on the bridge.
- The importance of the bridge note book and the entries to be made in it.

.4 Watchkeeping at sea 4hrs (T) + 0hrs (P) + 0hrs (E).

Knowledge of;

- That the officer of the watch is responsible for navigating safely, with particular regard to avoid collision and stranding.
- That the officer of the watch is responsible for the above duty at all times, including periods when the master is on the bridge.
- The principles to be observed in keeping a navigational watch regarding:
 - Navigation.
 - Navigational equipment.
 - Navigational duties and responsibilities.
 - Handing over and taking over the watch.
 - Look-out.
 - Protection of the marine environment.
 - Blind pilotage technique.
 - General principles for ship reporting system and with VTS procedures.
- The duties of the officer of the watch with regard to:
 - Maintenance of an efficient look-out.
 - The use of engines and sound signaling apparatus.
 - Watch arrangements.
 - Taking over the navigational watch.
 - Performing the navigational watch.
 - Watchkeeping under different condition and in different areas;
 - Clear visibility.
 - Restricted visibility.
 - In hours of darkness.
 - Coastal and congested waters.
 - Ship at anchor.
 - Periodic checks of navigational equipment.
 - Compliance with SOLAS V/19 regarding the use of the automatic pilot and the change-over to manual steering and vice-versa.
 - Electronic navigational aids.
 - The use of radar.
 - Navigation in coastal waters.
 - Conduct of the watch in clear weather.
 - Actions to take in restricted visibility.
 - The circumstances in which the officer of the watch should call the master.
 - Briefing of watchkeeping personnel.





- Safety of navigation in areas of heavy traffic.
- Maintaining the designated course.
- Monitoring other traffic in the vicinity.
- Keeping a careful watch over the ship's movements.
- Ensuring that the lights and shapes conform to requirements contained in the international regulations for preventing collisions at sea.

Familiarity with;

- The entries which should be made in the log-book.

.5 Watchkeeping in Port, keeping an Effective Deck Watch in Port under Normal Circumstances

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

Familiarity with;

- Watch arrangements.
- Keeping an effective deck watch in port to ensure; safety of life, environments, ship, cargo, port.
- Observe international, national and local rules such as ISPS Code requirements.
- Maintain order and the normal routine of the ship.
- Action to take on receiving storm warning or an emergency threatening the safety of the ship.
- Precaution to prevent pollution, port regulations.
- Monitoring work in an enclosed space, permit to work.
- Handing over and taking over, how the watch should be kept and points to which attention should be paid, entries of log-book.

.6 Watchkeeping in Port, Keeping a Watch in Port When Carrying Hazardous Cargo 2hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- Those sufficient personnel should be readily available on board when carrying hazardous cargo in bulk.
- That special requirements may be necessary for special types of ships or cargo:
 - Number of crew on board.
 - State of readiness of FFA and other safety equipment.
 - Special port regulations.
 - Communications with shore in emergency.
 - Special Precautions to prevent pollution of environment.
- That the officer of the watch should be aware of the nature of the hazards and any special precautions necessary for the safe handling of cargo.
- That the duty officer should be aware of the appropriate action in the event of spillage or fire.
- Procedure for entry into enclosed spaces and emergency rescue arrangements.

Competence: 1.3 responds to emergencies

1.3.1. Emergency procedures

- Precautions for the protection and safety of passengers in emergency situations
- Initial action to be taken following a collision or grounding; initial damage assessment and control
- Appreciation of the procedures to be followed for rescuing persons from the sea, assisting a ship in distress, responding to emergencies which arise in port

.1 Contingency Plans For Response to Emergencies

4hrs (T) + 0hrs (P) + 0hrs (E).





Familiarity with;

- Contingency plans in responding to emergency situations.
- The division of the crew into a command team, an emergency team, a back – up emergency team and an engine-room emergency team.
- The composition of emergency teams.
- The actions to take to deal with :
 - Fire in specific areas such as galley, accommodation, 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.
 - Heavy weather damage, with particular reference to hatches, ventilators and the security of deck cargo.
 - Rescue of survivors from another ship or the sea.
 - Leakages and spills of dangerous cargo.
 - Stranding.
 - Abandoning ship.
- The importance of drills and practices.
- The contents of a muster list, Contingency Plans and emergency instructions.
- That duties are assigned for the operation of remote controls such as :
 - Main engine stop.
 - Ventilation stops.
 - Lubricating and fuel oil transfer pump stops.
 - Co² discharge.
 - Watertight doors.
- And operation of essential services such as:
 - Emergency generator and switchboard.
 - Emergency fire and bilge pumps.
- 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 ER emergencies and keep the command team informed.
- That good communications between the command team and the emergency teams are essential.

.2 Protection and Safety of Passengers

4hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- That some crew members will be assigned specific duties for the mustering and control of passengers.
- The duties as :
 - Warning the passengers.
 - Ensuring that all passengers' spaces are evacuated.
 - Guiding passengers to muster stations.
 - Maintaining discipline in passageways, stairs and doorways.
 - Checking that passengers are suitably clothed and those life jackets are correctly donned.
 - Taking a roll-call of passengers.
 - Instructing passengers on the procedure for boarding survival craft or jumping into the sea.
 - Directing them to embarkation stations.
 - Instructing passengers during drills.
 - Ensuring that a supply of blankets is taken to the survival craft.

Precautions To Be Taken When Beaching A Vessel

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





Familiarity with;

- The circumstances in which a vessel may be beached.
- Reasons why beaching should be at slow speed.
- Measures which can be taken to prevent the ship driving further ashore and to assist with subsequent refloating.
- Suitable sea bed, adjusting speed and direction of approach.
- That a gently shelving beach of mud, gravel should be chosen if possible.
- That wind of tide along will quickly swing the ship broadside on to the beach.
- That all tanks and compartments should be sounded and an assessment made of damage to the ship.
- Those soundings should be taken to establish the depth of water round the ship and the nature of the bottom.

.4 Actions To Be Taken On Stranding 2hrs (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 of other weighs may be moved, taken on or discharged to assist refloating.
- The use of ground tackles for hauling off.
- 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.
- 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 inspected for damage.
- Those soundings should be taken to establish the depth of water round the ship and the nature of the bottom.
- Entries in the log book.

.5 Actions To Be Taken Following A Collision 2hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- Measures to attempt to limit damage to save own ship.
- 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 to abandon ship.
- That survival craft should be made ready for abandoning ship or assisting the crew of the other ship.
- That damage to own ship should be determined.
- That a distress or an urgency signal should be made, as appropriate.
- That, if not in danger, own ship should stand by to render assistance to the other for as long as necessary.
- That all details of the collision and subsequent actions should be entered in the log-book.

.6 Means of Limiting Damage and Salving the Ship Following a Fire or Explosion 2hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

Methods of fighting fires (see relevant function Prevent control and fight fires on board).





- Why it is important to drain spaces and pump out water resulting from fire fighting as quickly as possible.
- The inspection for fire damage.
- The safety measures to be observed when carrying out a fire damage inspection.
- 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.
- That cooling of compartment boundaries where fire has occurred should be continued until ambient temperature is approached.
- That a watch for re-ignition should be maintained until fire area is cold.
- That one person should enter a compartment where a fire has been extinguished without breathing apparatus until it has been thoroughly ventilated.
- The measures to be taken the inert gas main and gas lines to a mast riser are fractured.
- That continuous watch should be kept on the damaged area and temporary repairs.

.7 Procedures for Abandoning Ship

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

Familiarity with;

- Distress signals which may be used to attract attention.
- The launching of boats including life rafts when the ship is listing heavily.
- The launching of boats including life rafts in heavy weather.
- 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.
- That extra food and blankets should be placed in boats when time allows.
- That the emergency radio should be placed in a survival craft.
- That warm clothing and life jackets should be worn.
- That the lifeboats with motors should be used to tow craft clear of ship, pick up survivors from the water and marshal survival craft.
- That survival craft should remain together in the vicinity of the sinking ship to aid detection and rescue.

.8 Uses of Auxiliary Steering Gear and the Rigging and Use of Jury Steering Arrangements

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

Familiarity with;

- Typical arrangement of auxiliary steering gear.
- How the auxiliary steering gear is brought into action.
- Change over procedure from bridge control to local control in the steering gear compartment.
- Methods of securing the rudder, jury steering arrangement, construction of a jury rudder.

.9 Rescuing a Person from a Vessel in Distress or From a Wreck

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

Familiarity with;

- 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 methods of recovery of boats and survivors.
- Methods of rescue which may be used when sea conditions are too dangerous to use boats.





- That it is preferable to wait for daylight when no immediate danger exists.
- That rescue boats or motor-lifeboats would be used if conditions permitted.
- That unnecessary equipment should be removed from the boats and be replaced by life jackets, lifebuoys, blankets and a portable VHF radio.

.10 Measures For Assisting A Vessel In Distress

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

Familiarity with;

- How to approach a disable 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 disconnect the tow on arrival at the destination.
- That both vessels should have everything prepared and have agreed on communications before the arrival of the ship.
- That the tow normally passes a messenger, followed by a wire messenger, to the towing vessel to haul across the towing wire.
- That wires and cables should be inspected frequently and the nip freshened if any sign of wear or chafe is found.
- That both ships should remain alert for signals from other vessel.

.11 Actions That Can Be Taken When Emergencies Arise In Port

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

Familiarity with;

- Actions to take in the event of fire on own ship, with particular reference to co-operation with shore facilities.
- Actions to be taken when fire occurs on a nearby ship or adjacent port facility.
- The actions which can be taken to avoid a ship dragging anchor towards own ship in an anchorage.
- That a duplicate set of fire control plans is stored for the assistance of shore-side fire-fighting personnel.
- Situations in which a ship should put to sea for reasons of safety such as leakages, spills of dangerous cargo leakage of oil.

Competence: 1.4 responds to a distress signal at sea

1.4.1. Search and rescue

- **Knowledge of the contents of the International Aeronautical and Maritime Search and Rescue (IAMSAR) manual**

.1 Searches and Rescue

4hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The content and application of the IAMSAR manual volume III and National Search and Rescue plan.
- The maritime search and rescue organization existing to render assistance to ships at sea as laid down the IAMSAR manual volume III;
 - Basic structure of the SAR organization
 - The responsibility
 - Need for an SAR organization
 - The responsibility of the coastal state
 - Co-operation between coastal states





- Planning of a search and rescue
- Determination of search area (possibility area, probability area, assignment of search area to individual search units, designation and description of search areas)
- Search techniques (search area coverage, search patterns, co-ordinate air / surface search patterns)
- Conduct of search (briefing of search personnel, search by surface units, continuation of search, termination of search)
- Rescue of survivors (immediate care of survivors, briefing of survivors, evaluation of SAR operations, report of SAR operations)
- Abbreviations and definitions connected with SAR
- The contingency plan for assisting a ship in distress which includes :
 - Calling master,
 - Establishing type of distress,
 - Signal received by assisting vessel,
 - Use of merchant ship position reporting systems,
 - Action to be taken whilst proceeding to scene of distress (lookout, preparation of survival crafts, preparation of gangway and or cargo nets)

Competence: 1.5 uses the IMO standard marine communication phrases and use English in written and oral form

1.5.1. English language

- Adequate knowledge of the English language to enable the officer to use charts and other nautical publications, to understand meteorological information and messages concerning ship's safety and operation, to communicate with other ships, coast stations and VTS centers and to perform the officer's duties also with a multilingual crew, including the ability to use and understand the IMO standard marine communication phrases (IMO SMCP)

.1 Maritime English in Written and Oral Form

30hrs (T) + 0hrs (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 perform officer's duties.
- 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 different part of the ship and cargo gears.
- Understand manufacturer's technical manuals and specifications and to converse with technical shore staff concerning ship and machinery repairs.

Competence: 1.6 transmits and receives information by visual signalling

1.6.1. Visual signalling

- Ability to use the international code of signals
- Ability to transmit and receive, by morse light, distress signal SOS as specified in annex iv of the international regulations for preventing collisions at sea, 1972, as amended, and





appendix 1 of the international code of signals, and visual signalling of single-letter signals as also specified in the international code of signals

.1 Signalling by Morse code (Transmission & Reception) 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- Send and receive the distress signal SOS by flashing light.
- The recommendations on sound signalling.
- The single-letter signals which may be sounded only in compliance with the requirements of the International Regulations for Preventing Collisions at Sea.

Competence: 1.7 maneuver the ship

1.7.1. Ship maneuvering and handling

- .i the effects of deadweight, draught, trim, speed and under-keel clearance on turning circles and stopping distances
- .ii the effects of wind and current on ship handling
- .iii maneuvers and procedures for the rescue of person overboard
- .iv squat, shallow-water and similar effects
- .v proper procedures for anchoring and mooring

.1 The Effects of Various Displacement, Draughts, Trim, Speed and Under Keel Clearance on Turning Circles and Stopping Distances 2hrs (T) + 0hrs (P) + 0hrs (E).

Understanding of;

- The accelerating turn and decelerating turn.
- How speed reduces during a turn.
- Why a loaded ship carries her way longer than when in ballast.
- The steering behavior of directionally stable and directionally unstable ships.
- The terms: advance, transfer, drift angle, tactical diameter, track reach, head reach and side reach.

Familiarity with;

- The size of the turning circle increases as the under keel clearance decreases.
- The stopping distance of a loaded ship may be up to three times the stopping distance when in ballast.
- That in shallow water a ship will carry her way longer than in deep water.

.2 The Effect Of Wind And Current On Ship Handling 2hrs (T) + 0hrs (P) + 0hrs (E).

Understanding of;

- The behavior of a ship moving ahead with a wind from various directions.
- The effect of wind when :
 - Making large turns
 - Making headway and sternway
 - Ship is disabled
- The effect of current on the motion of a ship.
- The importance of creating lee when requiring smaller vessels to come alongside.
- That in rivers or narrow channels the current is usually stronger in the center of a straight channel or at the outside of bends.





- Use of current when turning in a channel.
- Use of current to control lateral movement toward or away from a river berth.
- Use of anchor to dredge down with a current.

Familiarity with;

- That, as a ship is slowed, a speed is reached at which the wind prevents maintaining course.
- How the effect of wind on given ship depends on:
 - Wind strength
 - Relative wind direction
 - Above water area and profile
 - Draft and trim
 - Ship's fore and movement

.3 Manoeuvres and Procedures for the Rescue of Person Over Board 2hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The single turn, Williamsons turn and scharnow turn and manoeuvres.
- The situation when each turn is appropriate.
- Difference between 'immediate action', 'delayed action' and 'person missing' situations.
- The standard manoeuvres are not guaranteed to return ship into its wake because of the effects of particular ship characteristics and environment conditions on the ship and the person in the water.
- The sequence of actions when a person is seen to fall overboard.
- The action to take when a man-overboard report is received on the bridge.

.4 Proper Procedures for Anchoring and Mooring 2hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- How the approach to an anchorage is made with regard to current and wind.
- The safety measures to be taken by the anchor party.
- The method of letting go and the amount of cable to veer initially.
- The procedures for anchoring in water too deep to let the anchor go on the brake.
- The securing of anchors on the completion of anchoring.
- The preparation for and procedure during heaving up.
- How to secure anchors and seal spurling pipes for a sea passage.
- The use of head ropes, stern ropes, breast ropes and springs.
- The safety measures to be taken when handling mooring ropes and wires.
- How to join two mooring ropes together.
- Perform different type of knots and hitches.
- Typical mooring arrangements.
- How to make fast tugs on towing hawsers or lashed up alongside.
- The use of fenders during berthing and when secured in position.
- Methods of mooring to a buoy.
- How to use a messenger to pass a wire or chain to a buoy.
- The method of securing ropes and wires to a buoy.
- The procedures for singling up and letting go from berths and buoys.
- That the lights or shape for a vessel at anchor should be displayed as soon as the ship is brought up.
- The preparations to be made for berthing alongside.
- The importance of keeping mooring lines clear of the propeller and notifying the bridge when the propeller is not clear.



Function: 2 cargo handling and stowage at the operational level

Competence: 2.1 monitor the loading, stowage, securing, and care during the voyage and the unloading of cargoes.

2.1.1. Cargo handling, stowage and securing

- effect of cargo, including heavy lifts, on the seaworthiness and stability of the ship
- safe handling, stowage and securing of cargoes, including dangerous, hazardous and harmful cargoes, and their effect on the safety of life and of the ship
- Ability to establish and maintain effective communications during loading and unloading

.1 Draught, Trim And Stability

4hrs (T) + 0hrs (P) + 2hrs (E).

Understanding of;

- Concept of seaworthiness.
- Deadweight and displacement tonnage, draft, trim, mean draft, draft marks, deck line, freeboard, centre of gravity (COG), centre of floatation (CF), TPC .
- Use of tables to calculate weights loaded or discharged, effect of weight loaded or discharged on trim.
- 'Deadweight' and 'displacement tonnages'.
- Ability of vessel to return to an upright position when heeled by external force, position of center of gravity (COG) due to distribution of cargo, tender and stiff ship.

Ability to;

- Sketch a ship's load line indicating marks for various seasonal zones, areas and periods.
- Use a ship's hydrostatic particulars and given mean draughts to determine the approximate weight loaded or discharged.
- Use a deadweight scale to determine the change in mean draught resulting from loading or discharging a given tonnage.
- Given the present draughts and the density of dock water, calculates the draughts in seawater.
- Given the draught amidships and dock-water density, calculates the amount to load to bring the ship to the appropriate load line in seawater.
- Use hydrostatic data to find the position of the centre of flotation, MCTC and TPC for a given draught.
- Given the initial draughts, forward and aft, calculates the new draughts after loading or discharging a given quantity of cargo.
- Use a trimming table or curves to determine changes in draughts resulting from loading, discharging or moving weights.
- Calculate final draughts and trim for a planned loading by considering changes to a similar previous loading.
- Calculate, by using moments about the keel, the position of G for a given disposition of cargo, fuel and water.
- Use hydrostatic data to find the KM and thence the GM.
- Plan the use of fuel and water to keep free surface effects to a minimum.
- Estimate the loss of GM resulting from absorption of water by deck cargo.

.2 Securing Cargoes

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

Familiarity with;

The need for solid stow and securing of all cargoes.

Method of :





- Blocking, shoring, lashing, chocking cargo.
- Securing cargo faces resulting from part discharge before making a sea passage
- Stowing and securing vehicles and trailers
- Passenger operations including passenger cargo, passenger comfort and safety.
- That unitized, containers, trailers, portable tanks and other cargo units should be secured in accordance with the ship's cargo securing manual.
- That cargo liable to slide during rolling, such as steel rails should be stowed fore and aft.

.3 Deck Cargo

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

Familiarity with;

- Why efficient securing is essential for the safety of the ship and cargo.
- How the effects of a concentrated load can be spread over a wider area by the use of dunnage and deck shoring taking into consideration the positioning of girders, transverses and longitudinals under the tank top.
- The effect of deck cargo on stability with reference to:
 - Vertical moment about the keel
 - Water absorption
 - Clearing of water from deck in heavy weather
 - Increased reserve buoyancy of a timber deck cargo
- That cargoes, other than in containers, commonly carried on deck are:
 - Dangerous goods not permitted below decks
 - Large units difficult to stow below, which can be safely be expose to the elements
 - Cargoes which can be exposed to the weather and which would occupy a very large space below decks
 - Livestock in limited numbers
- That stowage and securing should be adequate for the worst conditions which could be experienced.
- That hatches should be securely closed and cleated before loading over them.
- That stowage must leave safe access to essential equipment and spaces such as:
 - Sounding pipes.
 - Mooring arrangements.
 - FFA and LSA.
 - Crew accommodation and working spaces.
 - Protection for the crew.
- That deck cargo should not obstruct view from bridge or over side at the bow.
- That the weight of the deck cargo should not exceed the maximum permissible load on the deck or hatch covers.

.4 Bulk Cargo (Other Than Grain)

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

Familiarity with;

- The IMO IMSBC code, (International Maritime Solid Bulk Cargo).
- that the main hazards associated with the shipment of bulk solids are :
 - Structural damage due to improper distribution of the cargo.
 - Loss or reduction of stability during a voyage
 - Chemical reactions
- The preparation of cargo holds prior to loading bulk cargoes.
- That separation between certain bulk cargoes and other than bulk cargoes or package of dangerous goods is required.





- That some bulk cargoes may deplete the oxygen content of holds or produce toxic gases and describes the precautions to take before entry of holds.
- The hazards associated with coal cargoes.
- The importance of monitoring the temperature of the holds associated with carriage of coal cargoes.
- The precautions to take during loading and discharging coal.
- How coal should be ventilated.
- The distribution of a high- density cargo between holds when detailed information is not available.
- The precautions to be taken before, during and after loading of coal and bulk cargo.
- The information, which should be supplied by the shipper.
- That some bulk cargoes can cause corrosion in the cargo spaces, and describes the measures to take to minimize this.

.5 Bulk Grain Cargo

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

Familiarity with;

- The cleaning and preparation of holds and decks for the carriage of grain.
- How to separate two different bulk grain cargoes loaded into the same compartment.
- Preparation of holds for carrying bulk grain, trimming, check for insects and rodent, shifting boards, separation.

.6 Inspections and Preparation of Holds

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

Familiarity with;

- The importance of cleaning holds before loading.
- How to clean holds after discharge of a general cargo and bulk cargo.
- The reasons for using dunnage.
- The types and size of material used for dunnage.
- The methods of dunnaging a hold for various cargoes and how to dispose of old dunnage.
- The reasons for a general inspection of the holds before loading.
- Items to be inspected in the hold.

.7 Segregation And Separation of Cargoes

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

Knowledge of;

- The need for the segregation of different cargoes with reference to:
 - Dangerous goods
 - Dry / wet cargo
 - Clean / dirty cargo
 - Delicate cargo
 - Valuable cargo
- How the cargo in the above objectives can be segregated.
- The need for the segregation of different cargoes.
- The different methods of segregation.
- Method of separating adjacent parcels of cargo.
- The use of port marking to separate parcels for discharge at different ports.

.8 Ventilation And Control

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

Familiarity with;





- The causes of sweat and the need for ventilation.
- The ventilation system.
- Difference between ship's sweat and cargo sweat and the conditions in which each is experienced.
- The system of natural ventilation and how it should be controlled to minimize the formation of sweat.
- The factors involved in the control of sweat by ventilation.
- That ventilation is also required for the removal of heat, gases and odours.
- Cargoes requiring special ventilation.

.9 General Cargo 2hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- Preparation of hold and care for during loading, discharging and carriage of cargoes such as rice, steel cargo, palletised cargo, CKDs, vehicles.

.10 Dangerous, Hazardous and Harmful Cargoes 4hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The classification of dangerous goods in the International Maritime Dangerous Goods (IMDG) Code.
- The properties, characteristics and physical state of the different substances, materials and articles covered by the 9 classes of the IMDG Code.
- Where to look for damage and defects most commonly encountered due to:
 - loading and unloading operation
 - corrosion
 - severe weather conditions
- The meaning of the following stowage and segregation requirements for the different types of ships, with the aid of diagrams:
 - on deck only
 - on deck or under deck
 - away from
 - separated from
 - separated by a complete compartment or hold from
 - separated longitudinally by an intervening complete compartment or hold
- The precautions which should be taken while loading or discharging Dangerous Goods.
- The fire precautions which should be taken when carrying dangerous goods.

.11 Cargo Handling Equipment and Safety 4hrs (T) + 0hrs (P) + 0hrs (E).

.1 Cargo Handling Equipment

Familiarity with;

- The various cargo handling equipment on board.
 - The use of slings, canvas slings, trays, pallets, nets, chain slings, cant hooks, bale hooks and vehicle slings.
 - The care and maintenance of cargo gear.
 - How hatch covers are secured for sea.
 - That hatch covers should be secured by locking devices to prevent them moving accidentally.
 - The provisions for adequate lighting for working spaces, portable lights and precautions with dangerous cargoes.
- Means of securing lifting appliances for sea.





- The precautions to take when lifting bales with hooks in the bale bands and damage caused by hooks generally.
- That all cargo gear should be visually inspected before the start of cargo operations each day.
- That ropes, wire, blocks and loose gear should be subject to frequent inspections while in use.
- That it is the ship's responsibility to cover hatches when notice of completion of work for the day is given by the stevedores.
- That no person should stand or pass under a suspended load.
- That each item of cargo gear has its safe working load which should never be exceeded.

.2 Cargo Handling Safety

Familiarity with;

- The importance of having a Safe Working Load (SWL) for the cargo gear.
- The importance of maintaining close communication with the shore during the loading and unloading stage.
- The information that should be agreed between ship and shore before any loading or unloading operation.

.12 Oil Tanker Piping And Pumping Arrangements

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

.1 Tanker arrangements

Familiarity with;

- The general arrangement of tanker;
 - cargo tanks,
 - pump rooms,
 - segregated ballast tanks,
 - slop tanks,
 - cofferdams, peak tanks and deep tanks
 - accommodation
 - ventilators leading to accommodation and machinery spaces

.2 Cargo piping system

Familiarity with;

- Pipeline arrangement in tanker.

.3 Cargo pumps

Familiarity with;

- The main operating features of pumps.
- The safe handling cargoes.
- The use of ship/shore checklist.
- The importance of setting the right pumping rate during the loading and unloading operation.
- Cargo handling arrangements and safety precaution of tanker.

.13 Precautions Before Entering Enclosed Or Contaminated Spaces

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

Familiarity with;

- Why periodical tests of the atmosphere should be made by persons working in an enclosed space.





- The permit-to-enter system using safety checklists to be followed by the responsible person and the persons entering the enclosed space.
- That enclosed spaces should be entered only with authorization and after appropriate safety checks have been carried out.
- The dangers associated with enclosed or contaminated spaces, they may be lacking in oxygen or contain flammable or toxic gases.
- That the oxygen content should be 21% by volume before entry is permitted.
- The protective clothing and equipment which should be used by or be available to those entering the space.
- That mechanical ventilation should be maintained throughout the time persons are in an enclosed space.
- That all safety checks should be repeated before re-entering a space after a break.
- That a permit-to-work system should only be for the specific duration of the work for that particular day and not valid for the following day.
- That after work is completed; the area must be closed and secured.

.14 Cargo Calculations and Cargo Plans

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

Familiarity with;

- The use of tank calibration tables and given cargo density to calculate the weight in a given tank.
- Difference between bale capacity and grain capacity.
- 'Stowage factor'.
- 'Broken stowage' and how an allowance is made for it.
- 'Ullage'.

Ability to;

- Calculates the weight that the holds will contain, given the capacity of the hold and the stowage factor of the cargo.
- Calculates the space required, given the weights and stowage factors of one or more cargoes.
- Calculates the number of packages of given dimensions which can be loaded in a stated space, making allowance for broken stowage.
- Draws up a cargo plan from given information.

.15 Communications

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

Familiarity with;

- The importance of maintaining effective communications between all concerned during loading and discharging.
- The various persons/stations involved during cargo operations and the methods of communication available between them.
- That the communication arrangements should be checked before the commencement of cargo operations.

Competence: 2.2 inspect and report defects and damage to cargo spaces, hatch covers and ballast tanks

2.2.1. where to look for damage and defects most commonly encountered due to:

- .1 loading and unloading operations**
- .2 corrosion**





.3 severe weather conditions

2.2.2. Ability to state which parts of the ship shall be inspected each time in order to cover all parts within a given period of time

2.2.3. Identify those elements of the ship structure which are critical to the safety of the ship

2.2.4. State the causes of corrosion in cargo spaces and ballast tanks and how corrosion can be identified and prevented

2.2.5. procedures on how the inspections shall be carried out

2.2.6. Ability to explain how to ensure reliable detection of defects and damages

.1 Cargo Space Inspections 2hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The possible causes of damage to the cargo space during cargo operation.
- The defects that could arise due to the nature of cargo carried.
- The corrosion effect that could arise due to structural stress, uneven distribution of cargo, chemical reactions on the ship structure.
- The damage to cargo space due to severe weather condition.
- The safety procedures before entry into the cargo tank for inspection.
- Structural or parts to be inspected each time in order to cover all parts within a given period of time.
- The methods in use to prevent the occurrence of corrosion in cargo spaces.

.2 Hatch covers inspection 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The working principles of a hatch cover.
- The construction of a hatch cover.
- The testing methods for a hatch cover.
- The difference between watertight and weather tight.
- The critical components of the hatch cover that contribute to weather tightness.
- The critical components of the hatch cover that contribute to water tightness.
- The structural components of a hatch cover which are most likely to experience corrosion.

.3 Ballast tanks inspection 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The purpose of ballast tanks.
- The corrosion prevention methods for ballast tanks.
- The parts in the ballast tanks which are most likely to experience corrosion.
- The period of interval for the inspection of ballast tanks.

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

Competence: 3.1 ensure compliance with pollution- prevention requirements

3.1.1. Prevention of pollution of the marine environment and anti-pollution procedures

- precautions to be taken to prevent pollution of the marine environment
- Anti-pollution procedures and all associated equipment
- Importance of proactive measures to protect the marine environment

1 International Convention for Prevention of Pollution from Ships, 1973, And Protocol of 1978





Relating there To (MARPOL 73/78) for ships below 500 GT

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

Familiarity with;

- The inspections which may be made by port State authorities and actions which they may take.
- The provisions for the detection of violations and enforcement of the Convention.
- For the purpose of MARPOL 73/78:
 - harmful substance
 - discharge
 - ship
 - incident

Familiarity with;

- That violations of the Convention are prohibited and that sanctions should be established for violations, wherever they occur, by the Administration of the ship concerned.
- That reports on incidents involving harmful substances must be made without delay.

.1.1 Annex I – Oil

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

Familiarity with;

- The surveys and inspections required under the provisions of MARPOL 73/78.
- For the purposes of annex 1:
 - Oil
 - Oily mixture
 - Oil fuel
 - Oil tanker
 - Combination carrier
 - Nearest land
 - Special area
 - Instantaneous rate of discharge of oil content
 - Wing tank
 - Centre tank
 - Slop tank
 - Clean ballast
 - Segregated ballast
- That the condition of the ship and its equipment should be maintained to conform with the provisions of the convention.
- That the certificate issued after survey is the international oil pollution prevention (IOPP).
- That the IOPP certificate should be available on board the ship at all times.
- That residues which cannot be discharged into the sea in compliance with the regulations must be retained on board or discharged to reception facilities.
- Special areas for the purposes of annex - I such as the Gulf area(Persian Gulf).

.1.2 Annex II - Noxious Liquid Substances In Bulk

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

Familiarity with;

- That the requirements of annex II apply to all ships carrying noxious liquid substances in bulk.
- The surveys required for ships carrying noxious liquid substances in bulk.
- That each ship which is certified for the carriage of noxious liquid substances in bulk should be provided with a procedures and arrangements manual.





- That the Manual identifies the arrangements and equipment needed to comply with Annex II and specifies the operational procedures with respect to cargo handling, tank cleaning, residue discharging, ballasting and deballasting which must be followed in order to comply with the requirements of Annex II.
- That each ship should be provided with a cargo record book which should be completed, on a tank-by-tank basis, whenever any operations with respect to a noxious liquid substance take place.

.1.3 Annex III – Harmful Substances Carried By Sea In Packaged Forms, Or In Freight Containers, Portable Tanks Or Road And Rail Tank Wagons 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The requirements for marking and labeling packages, freight containers, tanks and wagons.
- The documentation relating to the carriage of harmful substances by sea.
- That for the purpose of this annex, empty receptacles, freight containers and portable road and rail tank wagons which have been used previously for the carriage of harmful substances are treated as harmful substances themselves unless precautions have been taken to ensure that they contain no residue that is hazardous to the marine environment.
- That packaging, containers and tanks should be adequate to minimize hazard to marine environment.
- That certain harmful substances may be prohibited for carriage or limited as to the quantity which may be carried aboard any one ship.
- That jettisoning of harmful substances is prohibited except for the purpose of securing the safety of the ship or saving life at sea.

.1.4 Annex IV - Sewage 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The provisions regarding the discharge of sewage into the sea.

.1.5 Annex V – Garbage 1hrs (T) + 0hrs (P) + 0hrs (E).

Understanding of;

- For the purposes of annex V:
 - Garbage
 - Nearest land
 - Special area

Familiarity with;

- That the provisions of annex V apply to all ships
- That the disposal into the sea of all plastics is prohibited.
- The regulations concerning the disposal of other garbage.

.1.6 Annex VI – Air Pollution 1hrs (T) + 0hrs (P) + 0hrs (E).

Understanding of;

- The provision for the issuance of International Air Pollution Prevention certificate.
- The duration of validity of the certificate.
- The regulation regarding NOX in Regulation 13 of Annex VI.



- The requirement for SOX emission control area.
- The requirement for fuel oil quality in Regulation 18 of Annex VI.

Familiarity with;

- For the purposes of Annex VI:
 - describes the types of inspection required under Annex VI
 - continuous feeding
 - emission
 - new installations
 - NOX technical code
 - Ozone depleting substances
 - sludge oil
 - shipboard incineration
 - shipboard incinerator
 - SOX emission control area

.2 Anti-Pollution Procedures and All Associated Equipment

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

Understanding of;

- Regulation 26 Annex 1 MARPOL 73/78.
- Typical shipboard oil pollution emergency plan (SOPEP Plan).
- Antipollution equipment required by national legislation, for example, Oil Pollution Act of Islamic Republic of Iran 1389(Latest Edition).
- Special areas, oil record book, garbage record book, cargo record book, control of discharge of oil and oily water procedures, methods for the prevention of oil pollution from ships while operating in special areas and outside special areas, crude oil washing, Ship Board Oil Pollution Emergency Plan (SOPEP), garbage disposal, garbage management plan, discharge of sewage, discharged of oil or other harmful substances into sea, accidental oil spillage, bunker checklist, reports on incidents involving oil or harmful substances .

Competence: 3.2 maintain seaworthiness of the ship

3.2.1. Ship stability

- application of stability, trim and stress tables, diagrams and stress-calculating equipment
- Understanding of fundamental actions to be taken in the event of partial loss of intact buoyancy
- Understanding of the fundamentals of watertight integrity

.1 Displacement

4hrs (T) + 0hrs (P) + 4hrs (E).

Understanding of;

- Archimedes principle and the law of flotation.
- The relationship between the displacement and the mean draft of a ship.
- That, for a ship to float, it must displace a mass of water equal to its own mass.
- 'Light displacement' and 'load displacement'.
- 'Deadweight' and 'displacement tonnage'.
- The displacement of a vessel as its mass and that it is measured in tonnes.

Familiarity with;





- That displacement is represented by the symbol Δ
- The content of ship's stability book let.

Ability to;

- Use the deadweight scale to find the deadweight and displacement of a ship at various drafts in sea water.
- Sketch a load line and indicates marks for various seasonal zones, areas and periods.
- Use a ship's hydrostatic particulars and given mean drafts to determine the approximate weight loaded or discharged.
- Use deadweight scale to determine change in mean draft on loading or discharging given an example of draft calculation after loading certain amount of cargo, considering water density.

.2 Buoyancy 2hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- What is meant by buoyancy.
- 'Reserve buoyancy'.
- How freeboard is related to reserve buoyancy.
- The purpose of load lines.
- Requirement for maintaining water-tight integrity.
- The force of buoyancy as an upward force on a floating Object created by the pressure of liquid on the object.
- That the buoyancy force is equal to the displacement of a floating object.

.3 Fresh Water Allowance (F W A) 4hrs (T) + 0hrs (P) + 2hrs (E).

Familiarity with;

- Why the draft of ship decreases when it passes from fresh water to sea water and vice versa.
- What it meant by the Fresh Water Allowance (FWA)
- The use of a hydrometer to find the density of dock water.
- The effect of changes of tide and rain on dock water density.
- How to obtain the correct dock water density.
- That when loading in fresh water before proceeding into sea water, a ship is allowed a deeper maximum draft.

Ability to;

- Calculate the amount which can be loaded after reaching the summer load line when loading in fresh water before sailing into sea water, given the FWA and TPC for fresh water.
- Calculate the amount to load to bring the ship to the appropriate load line in sea water, given the present draft amidships and the density of dock water.

.4 Statical Stability 4hrs (T) + 0hrs (P) + 4hrs (E).

Familiarity with;

- That the total force of buoyancy can be considered as a single force acting through B.
- Stability of a ship as the ability to return to an upright position after being heeled by an external force.
- How variations in displacement and GZ affects the stability of the ship.
- The centre of buoyancy (B) as being the centre of the underwater volume of the ship.
- That weight is the force of gravity on a mass and always acts vertically downwards.





- That the total weight of a ship and all its contents can be considered to act at a point called the centre of gravity (G).
- That the force of buoyancy always acts vertically upwards.
- That when the shape of the underwater volume of a ship changes the position of B also changes.
- That the position of B will change when the draft changes and when heeling occurs.
- That the buoyancy force is equal to the weight of the ship.

Ability to;

- Label a diagram of a midships cross section of an upright ship to show the weight acting through G and the buoyancy force acting through B.
- Label a diagram of a midships cross section of a ship heeled to a small angle to show the weight acting through G and the buoyancy force acting through B.

.5 Initial Stability 2hrs (T) + 0hrs (P) + 2hrs (E).

Familiarity with;

- The effect on a ship's behavior of :
 - A large GM (stiff ship)
 - A small GM (tender ship)
- The transverse metacentre (M) as the point of intersection of successive buoyancy force vectors as the angle of heel increases by a small angle.
- That it is common practice to describe the stability of a ship by its reaction to heeling to small angles (up to approximately 10 degrees).
- That, for small angles of heel, M can be considered as a fixed point on the center line.
- That the value of GM is a measure of the stability of the ship.
- That KM is only dependent on the draft of a given ship.
- That for a cargo ship, the recommended initial GM should not normally be less than 0.15m.

.6 Angle of Loll 2hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- How B may move sufficiently to reduce the capsizing moment to zero at some angle of heel.
- Why the condition described in the above objective is potentially dangerous.
- Ways in which to correct this situation and thus reduce danger.
- That an unstable ship may loll to either side.

.7 Movement Of Centre Of Gravity (G) 2hrs (T) + 0hrs (P)+ 2hrs (E).

Understanding of;

- The movement of the centre of gravity with movement of weights on board (gg1):
 - Vertical and horizontal shift of g resulting from adding, removing or shifting weights on board
 - horizontal shift of g resulting from adding, removing or shifting weights on board
 - The shift of g when the weight is lifted by ship's cranes or derricks
 - The new position of g after the weight is loaded or discharged

.8 List And Its Correction 2hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;





- how the list may be removed.
- That in a listed condition the range of stability is reduced.

.9 Effect Of Slack Tanks 2hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- How the center of gravity of the liquid in a partly filled tank moves during rolling, by means of diagrams.
- That if a tank is full of liquid, its effect on the position of the ship's center of gravity is the same as if the liquid were a solid of the same mass.
- That when the surface of a liquid is free to move, there is a virtual increase in kg, resulting in a corresponding decrease in GM.

.10 Trim: 2hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- 'Trim' as the difference between the draft aft and draft forward.
- That trim may be changed by moving masses already on board forward or aft, or by adding or removing masses at a position forward of or abaft the centre of flotation.
- 'centre of flotation' as the point about which the ship trims, and states that it is some times called the tipping center.
- That the centre of flotation is situated at the centre of area of the water plane, which may be forward or abaft amidships.

.11 Action to Be Taken In The Event Of Partial Loss of Intact Buoyancy. 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The fundamental action to be taken in the event of partial loss of intact buoyancy.
- That flooding should be countered by prompt closing of watertight doors, valves and any other openings which could lead to flooding of other compartments.
- That any action which could stop or reduce the inflow of water should be taken.

.12 Stability Tables and Diagrams 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The use stability, trim and stress tables and diagrams.
- That ships carry an approved stability data booklet.
- The minimum statutory stability requirements that a ship should comply with.
- Content of ship's stability book let such as:
 - Hydrostatic tables.
 - Tanks / hold capacity tables.
 - Draft correction tables.
 - Worked example of displacement and stability calculation.
 - Position of C.F, MCTC, TPC, KM, etc.

3.2.2. Ship construction

- **General knowledge of the principal structural members of a ship and the proper names for the various parts**





.1 Ship Dimension and Form

6hrs (T) + 0hrs (P) + 6hrs (E).

Understanding of;

- And ability to illustrate:
 - camber,
 - rise of floor,
 - tumblehome,
 - flare,
 - sheer,
 - rake,
 - parallel middle-body,
 - entrance,
 - run
- Followings:
 - forward perpendicular (FP),
 - after perpendicular (AP),
 - length between perpendicular (LBP),
 - length on the water line (LWL),
 - length overall (LOA),
 - base line,
 - moulded depth and
 - extreme depth, beam and draft

Ability to;

- Illustrates the general arrangement of the following ship types:
 - General cargo
- Reproduce an elevation of a general cargo ship, showing holds, engine room, peak tanks, double bottom tanks, hatchways, tween deck and position of bulkheads.

.2 Ship Stresses

6hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- Terms shear force and bending moments.
- 'Hogging' and 'sagging' and differentiates between them.
- The loading conditions that give rise to hogging and sagging.
- How hogging and sagging stresses are caused by the sea state.
- How hogging and sagging stresses result in tensile or compressive forces in the deck and bottom structure.
- Water pressure loads on the ship's hull.
- Liquid pressure loading on the tank structures.
- The stresses set by liquid sloshing in a partly filled tank.
- 'Panting', 'pounding', and 'slamming' and states which part of the ship is affected.
- Stresses caused by localized loading.
- Corrosion.
- The causes of corrosion on board.
- The various methods being used to minimise the effect of corrosion.

Hull Structure

4hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;



- The types of materials that are used in the construction of a ship.
- The arrangements of frames, webs and transverse members for longitudinal, transverse and combined system of framing on transverse sections of ships.
- The importance of load lines and how they are marked.

.4 Bow And Stern

4hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The provision of additional strength to withstand pounding and panting, with illustration.
- The function of the stern frames and sketch a stern frame for a single screw ship.

.5 Fittings

6hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- Arrangement of modern weather deck mechanical steel hatch covers, with illustration.
- How water tightness is achieved at the coamings and cross joints.
- The cleating arrangement of the hatch covers.
- Roller- multi angle, pedestal and panama fairlead and mooring bits with their attachment to the deck, with illustration.
- The anchor handling arrangements from hawse pipe to chain locker.
- The bilge piping system of a cargo ship including strum box stating that each section is fitted with a screw-down non-return suction valve.
- A ballast system in a cargo ship, the arrangements of a fire main and what pump may be used to pressurise it.
- The provision of sounding pipes and sketches a sounding pipe arrangement.
- The fitting of air pipes to ballast tanks or fuel tanks.
- How to secure anchors and make spurling pipes watertight in preparation for a sea passage.

.6 Rudder and Propellers

6hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The type of rudder and action of the rudder in steering a ship.
- The purpose of the rudder carrier and pintles.
- How the weight of the rudder is supported by the rudder carrier.
- The arrangement of a watertight gland around the rudder stock.
- The principle of screw propulsion.
- A propeller and followings with respect to it:
 - Boss,
 - rake,
 - skew,
 - face,
 - back,
 - tip,
 - radius,
 - pitch
- Fix and controllable pitch propeller.
- How the propeller is attached to the tail shaft.





.7 Load Lines and Draught Marks

4hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- Where the deck line is marked.
- What is meant by 'assigned summer freeboard'.
- That the freeboard, measured from the upper edge of the deck line to the water on each side, is used to check that the ship is within its permitted limits of loading.
- 'Freeboard'.
- How to read draft.

Competence: 3.3 monitor compliance with legislative requirements

3.3.1. Relevant IMO conventions concerning safety of life at sea, security and protection of the marine environment

.1 Introduction to Maritime Law

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

Familiarity with;

- Followings:
 - flag State jurisdiction
 - coastal State jurisdiction
 - port State jurisdiction
- Main elements of relevant IMO Conventions, e.g. SOLAS, MARPOL and STCW.
- The significance of the 'no more favourable treatment' clause in the SOLAS, MARPOL, STCW and ILO Minimum Standards in Merchant Ships Conventions.
- That public maritime law is enforced through:
 - surveys, inspection and certification
 - penal sanctions (fines, imprisonment)
 - administrative procedures (inspection of certificates and records, detention)
- The importance of keeping up to date with developments in new and amended legislation.
- That the main sources of maritime law are international conventions.
- The main originators of international conventions concerned with maritime law as are:
 - International Maritime Organisation (IMO)
 - International Labour Organisation (ILO)
 - Committee Maritime International (CMI)
 - United Nations
- That the operation of a ship is governed by the national laws and regulations of the flag State, including those laws and regulations giving effect to international conventions.
- That, when in port, a ship must also comply with the appropriate laws and regulations of the port State.

.2 Law of the Sea

.2.1 Conventions on the Law of the Sea

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

Familiarity with;

- That the law of the sea is embodied in the Geneva Conventions of 1958 and the United Nations Convention on the Law of the Sea, 1982 (UNCLOS).
The legal status of UNCLOS.

.2.2 Territorial Sea and the Contiguous Zone

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



Familiarity with;

- The legal status of the territorial sea and its breadth.
- 'Internal waters'.
- The legal status of roadsteads.
- The right of innocent passage.
- 'Passage'.
- The obligations during innocent passage in a territorial sea.
- The use of sea lanes and traffic separation schemes (TSS) in the territorial sea.
- That a coastal state may take any steps authorized by its laws for the purpose of an arrest or investigation on board a foreign ship passing through the territorial sea after leaving internal waters.

.2.3 International Straits

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

Familiarity with;

- The legal status of waters forming straits used for international navigation.
- The right of transit passage.
- The duties of ships in transit passage.
- The meaning of 'generally accepted international regulations, procedures and practices'.
- The duty of ships in transit passage regarding sea lanes and TSS.
- Matters on which coastal State laws or regulations may affect transit passage.
- How sea lanes should be defined and how ships should follow them.
- That ships must respect established sea lanes and TSS.

.2.4 Exclusive Economic Zone and Continental Shelf

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

Familiarity with;

- The exclusive economic zone and its breadth.
- The continental shelf.
- The establishment of safety zones around artificial islands, installations and structures and states the breadth of those zones.
- The obligations of ships regarding safety zones.

.2.5 High Seas

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

Familiarity with;

- The freedom of the high seas.
- The nationality of ships.
- That each State must issue to ships to which it has granted the right to fly its flag documents to that effect.
- That, except in exceptional circumstances, ships must sail under the flag of one State only and be subject to its exclusive jurisdiction.
- That a ship may not change its flag during a voyage or while in a port of call, save in case of real transfer of ownership or change of registry.
- The status of ships regarding nationality.
- The duties of the flag State with respect to ships flying its flag.
- That in the event of a collision or of any other incident of navigation no penal or disciplinary proceedings may be instituted except before the judicial authorities either of the flag State or of the State of which such a person is a national.

Who may withdraw a master's certificate or a certificate of competence or a license.



.2.6 Protection and Preservation of the Marine Environment

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

Familiarity with;

- The rights of coastal states to adopt laws and regulations for the prevention, reduction and control of pollution in respect of their exclusive economic zones.
- The enforcement by flag States of measures for the prevention, reduction and control of pollution from ships.
- The enforcement by port States of measures for the prevention, reduction and control of pollution from ships.
- The measures relating to seaworthiness of vessels to avoid pollution.
- The enforcements by coastal States of measures for the prevention, reduction and control of pollution from ships.
- The rights of States to take and enforce measures beyond their territorial seas to avoid pollution arising from maritime casualties.

.3 Safety

.3.1 International Convention on Load Lines, 1966 (LL 1966), as amended for ships below 500 GT

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

Familiarity with;

- That no ship to which the Convention applies may proceed to sea on an international voyage unless it has been surveyed, marked and provided with an International Load Line Certificate (1966) or an International Load Line Exemption Certificate, if appropriate.
- To which ships the Convention applies.
- The duration of validity of an International Load Line Certificate (1966).
- The circumstances in which an International Load Line Certificate (1966) would be cancelled by the Administration.
- For the purposes of the Regulations:
 - freeboard
 - freeboard deck
 - superstructure
- The position, dimensions and marking of:
 - the deck line
 - the load Line Mark
 - lines to be used with the load Line Mark
- The provisions for the protection of the crew.
- That deck cargo should be so stowed as to allow for the closing of openings giving access to crew's quarters, machinery space and other parts used in the necessary work of the ship.

.3.2 International Convention for the Safety of Life at Sea, 1974 as amended (SOLAS) –

General Provisions for ships below 500 GT

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

Familiarity with;

- followings:
 - passenger
 - passenger ship
 - cargo ship
 - tanker
 - age of a ship





- Who may carry out surveys for the enforcement of the provisions of SOLAS.
- The period of validity of each of the certificates.
- The circumstances in which certificates cease to be valid.
- That all certificates or certified copies of them should be posted up in a prominent and accessible place in the ship.
- That certificates issued under the authority of a contracting Government should be accepted by other contracting Governments.

.3.3 SOLAS - Subdivision and Stability, Machinery and Electrical Installation for ships below 500 GT
1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- Following, with reference to chapter 11-1:
 - subdivision load line
 - deepest subdivision load line
 - length
 - breadth
 - draught
 - bulkhead deck
 - margin line
 - machinery space
 - passenger spaces
 - weathertight
- That a ship should not be loaded so as to submerge the load line mark appropriate to the season and locality, as determined in accordance with the International Convention on load Lines, whatever the position of the subdivision load line marks may be.
- That a ship should not be loaded so as to submerge the subdivision load line mark appropriate to the particular voyage and condition of service.
- Classification of watertight doors as:
 - class 1 - hinged doors
 - class 2 - hand-operated sliding doors
 - class 3 - sliding doors which are power-operated as well as hand-operated
- That watertight doors in bulkheads dividing cargo between deck spaces must be closed before the voyage commences and must be kept closed during navigation.
- That the time of opening tween-deck doors in port and the time of closing them before leaving port should be entered in the log-book.
- That all watertight doors should be kept closed during navigation except when necessarily opened for the working of the ship, in which case they should always be ready to be immediately closed.

.3.4 SOLAS - Fire Protection, Fire Detection and Fire Extinction for ships below 500 GT
1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The basic principles of the regulations on fire protection.
- defines:
 - main vertical zones
 - accommodation spaces
 - public spaces
 - service spaces
 - cargo spaces





- ro-ro cargo spaces, open and closed
- special category spaces
- machinery spaces of category A
- control stations
- That fire hoses should be used only for the purposes of extinguishing fires or testing the apparatus at fire drills and surveys.
- The information included in fire control plans or booklets.
- That instruction concerning the maintenance and operation of all fire- fighting equipment and installations on board should be kept under one cover in an accessible position.
- That all fire-extinguishing appliances must be kept in good order and available for immediate use at all times during the voyage.
- That a special alarm, operated from the navigating bridge or from the fire control station, should be fitted to summon the crew and should be capable of being sounded independently of the alarm to the passenger spaces.
- That an efficient patrol system must be maintained for ships carrying more than 36 passengers.
- The training required by the fire patrol.
- That there are special requirements for ships carrying dangerous goods.
- That a ship should have a document provided by the Administration as evidence of compliance of construction and equipment with the requirements for the carriage of dangerous goods.

.3.5 SOLAS - Life-Saving Appliances and Arrangements for ships below 500 GT 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- Followings, with reference to chapter III of SOLAS:
 - certificated person
 - inflatable appliance
 - inflated appliance
 - launching appliance or arrangement
 - rescue boat
 - survival craft
- That life-saving appliances and arrangements required by chapter III of SOLAS must be approved by the Administration.
- The requirements for exhibiting muster lists.
- The illustrations and instructions to be displayed in passenger cabins and other spaces.
- The items to be included in muster lists and emergency instructions.
- The provision of operating instructions for life-saving appliances.
- How the crew should be assigned to survival craft to ensure satisfactory manning and supervision of survival craft.
- The requirement for the provision of training manuals.
- The frequency of abandon ship drills and fire drills and how they should be conducted.
- The on-board training which should be given in the use of life-saving appliances and in survival at sea.
- The records which should be made of abandon ship drills and fire drills, other drills of life-saving appliances and on-board training.
- That before leaving port and at all times during the voyage, all life-saving appliances must be in working order and ready for immediate use.
- The instructions for on-board maintenance of life-saving appliances which should be carried.
- The weekly and monthly tests and inspections required and the entries which should be made in the log-book.
- The requirements regarding the periodic servicing of inflatable liferafts, inflatable lifejackets, inflated rescue boats and hydrostatic release gear.



.3.6 SOLAS-Radio communications (amended chapter IV) and Chapter V (Safety of Navigation)
1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- That the 1988 amendments to the 1974 SOLAS Convention replace the existing Chapter IV with a new Chapter IV covering the global maritime distress and safety system (GMDSS).
- That every ship must comply with the regulations concerning NAVTEX and EPIRB.
- Followings, for the purpose of the amended Chapter IV, of:
 - bridge to bridge communications
 - continuous watch
 - general radio communications
 - international NAVTEX service
 - maritime safety information
 - sea area A1
 - sea area A2
- That every ship, while at sea, must be capable of:
 - transmitting ship-to-shore distress alerts by at least two separate and independent means
 - receiving shore-to-ship distress alerts
 - transmitting and receiving ship-to-ship distress alerts
 - transmitting and receiving search and rescue co-ordinating communications
 - transmitting and receiving on-scene communications
 - transmitting and receiving signals for locating
 - transmitting and receiving maritime safety information
 - transmitting and receiving general radio-communications
 - transmitting and receiving bridge-to-bridge communications
- The radio equipment to be carried by all ships.
- The additional equipment required by ships engaged on voyages exclusively within sea area A1.
- The additional equipment required by ships engaged on voyages within sea areas A1 and A2.
- That every ship must carry personnel qualified for distress and safety radio communications purposes who hold certificates specified in the Radio Regulations.

.3.7 SOLAS - Carriage of Grain 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- The intact stability requirements for a ship carrying bulk.
- The contents of the grain loading information referred to in the document of authorization.

.3.8 SOLAS - Carriage of Dangerous Goods 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- That the regulations concerning the carriage of dangerous goods in packaged form or in solid bulk form apply to all ships to which the SOLAS regulations apply and to cargo ships of less than 500 gross tons.
- That the provisions do not apply to ships' stores and equipment.
- That the carriage of dangerous goods is prohibited except in accordance with the provisions of the regulations.
- Classification of dangerous goods according to the IMDG code.
The stowage requirements for dangerous goods.



.3.9 The International Safety Management (ISM) Code and ISPS Code 1hrs (T) + 0hrs (P) + 0hrs (E).

Familiarity with;

- Safety Management System in compliance with the ISM Code and ISPS Code.
- That the details of the ship's system may be found in the ship's Safety Management Manual.

.3.10 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.

.3.11 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.

.3.12 Smuggling, piracy and territorial waters. 4hrs (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.
- Armed Robbery and 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.



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 table, Tide table and etc,)

5-7-3 English lab with audio and visual facilities.

5-7-4 Chart room with sufficient number of chart work facilities in relation to the number of trainees.

5-7-5 relevant educational and training films

5-7-6 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:

- Photographs, drawings and plans illustrating various types of ship in view of constructional details.
- Photographs, drawings and plans to illustrate different types of ship.
- Examples of cargo plans for various types of ship.

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

- Thermometers, Barometer, Marine Hydrometer , Magnetic Compass, Binnacle With Magnetic Compass/ Accessories, Azimuth Mirror, International Code of Signal and Flags and a set of Visual Signalling Equipment and Accessories(or a computer based system), SART, Line Throwing Apparatus and Pyrotechnics.

5-7-8 navigational aids such as: Echo Sounder, GPS, VHF, NAVTEX, Weather facsimile receiver and speed log(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).

5-7-9 seamanship workshop equipped with following items:

- Tables and sittings suitable for practical exercises, hand lad line with markings, pilot ladder and its spares, different types of fiber/ synthetic/wire ropes together with stoppers and various types of shackles, five set of relevant tools for hitching/splicing ropes, Bosun Chair, Stage, different blocks, two pieces of Joining and kenter Shackles with relevant tools for mantling/dismantling, mooring ropes fiber/synthetic/wire, Winch/ Windlasses and mooring



Arrangements, five sets of scrappers flat/triangle, grinding machines/tools, different types of marine paints, different types of paint roller and brush, airless paint spraying machine, wire ropes joints and fittings.

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 on ships of $GT \geq 500$ engaged on Unlimited voyages as well as having 12 months of seagoing service in that rank; or

5-8-1-1-2 Possess of B.Sc degree in maritime science and 12 months of teaching experience in maritime institutes; or

5-8-1-1-3 Possess valid Second Officer certificate of competency on ships of $GT < 500$ engaged on Near Coastal voyages as well as having 12 months of seagoing service in that rank, and B.Sc degree in maritime science ; or

5-8-1-1-4 Possess valid Master certificate of competency on ships of $GT < 500$ engaged on Near Coastal voyages as well as having 6 months of seagoing service in that rank, and higher diploma in nautical science and one year teaching experience in maritime institutes.

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

5-8-1-2-1 Possess minimum nautical higher diploma as well as having two years of seagoing service, or possess valid deck rating certificate of proficiency and 2 years of experience on that rank on merchant ships.

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 (in Tehran or Ports) 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, revalidating and renewing certificates of competency and certificates of proficiency 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, revalidating and renewing certificates of competency and certificates of proficiency 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 number 7.03

7-3 Code of practice for approval and monitoring of maritime training courses; and

7-4 Codes of practices for issuing, revalidating and renewing certificates of competency and certificates of proficiency for seafarers".

8- Appendixes

Nil