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MARITIME UNIVERSITY OF CONSTANTZA



Codruța PRICOP

INSTRUCTOR'S HANDBOOK

2010

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COURSE DESCRIPTION

GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM-GMDSS

GENERAL OPERATOR'S CERTIFICATE (GMDSS GOC)

TRAINING PROGRAMME ACCORDING TO STCW'74 CONVENTION, AS AMENDED IN 1995

CONSTANTZA MARITIME UNIVERSITY, March 2010

PART A

Course Framework

■ Scope

The course GMDSS GOC covers the training recommended in Annex 3 of IMO Assembly Resolution A. 703 (17) - Recommendation on Training of Radio Operators related to the General Operator's Certificate (GOC).

This training is dedicated for students of Constanta Maritime University and for seafarers who have to obtain a GMDSS General Operator Certificate for Maritime Mobile and Maritime Mobile Satellite Services in accordance with:

- The ITU Radio Regulations;
- The International Convention for the Safety of Life at Sea (SOLAS) 1974, as amended.
- Chapter IV of the Annex to the STCW Convention as amended in 1995
- Section A-IV/2 of the STCW Code.

Objective

A trainee successfully completing this course and passing the prescribed examination will be enabled to efficiently operate the GMDSS equipment, and to have primary responsibility to radio communications during Distress incidents.

On completion of the training, the trainees will have knowledge of the GMDSS system and be able to take charge of communications with the relevant rescue authority in emergency situations. They will be able to:

- 1. communicate using terrestrial systems operating in the medium, high and very high frequency bands;
- 2. use digital selective calling devices;
- 3. communicate using satellite systems types B, C and FLEET 77;
- 4. operate and test SARTs and EPIRBs;
- 5. use ITU and/or ALRS documents;
- 6. carry out maintenance procedures for batteries and aerials;
- 7. avoid the unintentional transmission of false Distress alerts and to use procedures in order to mitigate the effects of false Distress alerts following unintentional transmission.

Entry standards

This course framework assumes knowledge of maritime radio communication practice, knowledge of maritime English, knowledge of computer science and computer skills.

Course intake limitations

Facilities and equipment (GMDSS SIMULATOR NORCONTROLL CAPELLA 5.1 : 10 Student Station + 1 Instructor Station, GMDSS REAL CONSOLA: SEA 3 and other radio equipments) of GMDSS Laboratory in Constanta Maritime University enable practical training for GMDSS to be carried out for 12 trainee supervised by 2 instructors (simultaneously).

■ Staff:

All training and instruction GMDSS GOC is given by personnel properly qualified in the subject matter. Instructors in charge of practical training are holders of a valid General Operator's Certificate. In addition to having considerable experience in maritime radio communications, including GMDSS, all instructors have a good general knowledge of ships, maritime Distress, Urgency and Safety as well as Search and Rescue matters.

All instructors/supervisors/trainer/assessors:

- have an appropriate level of knowledge and understanding of the competencies for GMDSS training in accordance with The Radio Regulations, the International Convention for the Safety of Life at Sea (SOLAS) 1974, as amended, Chapter IV of the Annexes to the STCW Convention as amended in 1995, Section A-IV/2 of the STCW Code;

- are holders of GMDSS GOC, IMO trainers, assessors;

- have gained practical experience in GMDSS training;

To conducting training using the GMDSS NORCONTROL CAPELLA SIMULATOR and real radio GMDSS equipments, the instructors, trainers:

- have received appropriate guidance in instructional techniques involving the use of GMDSS Simulator and real radio GMDSS equipments;

- have gained a good practical operational experience on the GMDSS NORCONTROL CAPELLA SIMULATOR and real radio GMDSS equipments.

Assessors have completed an approved training course in examination and evaluation of professional competencies in shipping and related activities. Assessors that conducting assessment involving the use of GMDSS SIMULATOR (in particular NORCONTROL CAPELLA) have gained practical assessment experience on the GMDSS SIMULATOR (NORCONTROL CAPELLA).

Degree Qualifications/Sk	ills
--------------------------	------

Ph	D	Assoc Prof.	- Certificate of Proficiency: IMO instructor
Codruta		Ph.D	according to STCW 95 Code section A-I/6 and
PRICOP			IMO model course 6.09, No. 0000076/06.12.2002;
			- KMSS Norcontrol Cappela GMDSS Simulator-:
			Instructor Training Course Certificate, June
			2003;
			- Certificate of Proficiency: Examination and
			Evaluation of Professional Competencies in
			Shipping and Related Activities – Course, , No.
			00000014/02.11.2007;
			- Certificate of Proficiency, issued by Romanian
			Maritime Training Centre No/ 00000014/02.11.
			2007 Certificate of Proficiency issued by
			Romanian Maritime Training Centre No/
			00002215/26 03 2008 & Operators' Certificate
			for GMDSS (GOC);
			– GMDSS GOC for Maritime Mobil Service and
			Maritime Mobile–Satellite Service / No.
			4531/03.04.2008 (valid until 2013) issuing
			Administration: ANCOM Romania.

Ph D Dan Assoc Prof. - Certificate of Proficiency, issued by Romanian

POPAPh.DMaritime Training Centre No/ 00000014/02.11.2007Certificate of Proficiency issued by
Romanian Maritime Training Centre No/
00001002/28 01 2009 & Operators' Certificate
for GMDSS (GOC);

- GMDSS GOC for Maritime Mobil Service and Maritime Mobile–Satellite Service / No. 6907/09.02.2009 (valid until 2014) issuing Administration: ANCOM Romania;

- Certificate of Proficiency: IMO instructor according to STCW 95 Code section A-I/6 and IMO model course 6.09, No. 0000075/06.12.2002.

DumitruInstructor-Certificate of Proficiency, issued by RomanianLEGANELMaritime Training Centre No/ 00000014/02.11.2007Certificate of Proficiency issued by
Romanian Maritime Training Centre No/
0002424/27 05 2005;

- GMDSS GOC for Maritime Mobil Service and Maritime Mobile–Satellite Service / No. 3694/07.06.2005 (valid until 2010) issuing Administration: ANCOM Romania;

- Certificate of Proficiency: IMO instructor according to STCW 95 Code section A-I/6 and IMO model course 6.09, No. 00000146/02.12.2005. The Annex 1.1 contains the most important MCU documents. The Annex 1.2 contains Certificates/Diplomas of intructors/supervisors/trainers/assessors (Annex 1.2 MCU GMDSS GOC Course. Staff: CVs, Certificate, Diplomas).

Teaching facilities and equipments

Theoretic and practical knowledge is given in classrooms with facilities that include: blackboard, whiteboard, flipchart, overhead projector, video projector, PCs, plasma TV. For audio-visual material such as video files, videos, slides, tape recordings, etc. the appropriate equipment is available.

For practical training, we use The GMDSS Laboratory, an adequate working space and separate working areas as course rooms properly equipped. GMDSS LABORATORY in Constanta Maritime University is endowed by video projector, PCs, plasma TV and so on.

All facilities and equipment used for GMDSS GOC training are type approved for installation and are suitable for the practical demonstrations and exercises to be undertaken in accordance with the specific objectives of the training.

GMDSS LABORATORY in Constanta Maritime University is endowed by NORCONTROLL CAPELLA 5.1 GMDSS SIMULATOR and Real GMDSS Console: SEA 3 (Ship Station Licence No A/7014/2009 and other radio systems and equipments described as follows (see Annex 2.1 – MCU GMDSS Laboratory - GMDSS SEA 300 GMDSS CONSOLE (real GMDSS CONSOLE) & OTHER EQUIPMENTS & NORCONTROL CAPELLA GMDSS SIMULATOR). A. The NORCONTROL CAPELLA 5.1 GMDSS Simulator, designated and implemented by Kongsberg Maritime Ship Systems (KMSS) Norway, incorporates all communication equipment applicable to four sea-areas (A1 to A4) as determined by the IMO/SOLAS GMDSS regulations.

The GMDSS Simulator is used to train our students in order to obtain:

- General Operator's Certificate for the Global Maritime Distress and Safety – GOC;

- Restricted Operator's Certificate for the Global Maritime Distress and Safety - ROC;

- Long Range Operator's Certificate for the Global Maritime Distress and Safety – LRC;

- Short Range Operator's Certificate for the Global Maritime Distress and Safety – SRC.

The NORCONTROL CAPELLA GMDSS Simulator consists of:

- one Instructor Station for full exercises and system control

- and 10 **Student Stations** enabling all GMDSS COMMUNICATIONS TRAINING CAPABILITIES.

All terrestrial and satellite systems or equipments are implemented in The GMDSS NORCONTROL CAPELLA Simulator:

- VHF/MF/HF radio systems;
- VHF/MF/HF DSC CONTROLLERs, NBDP Data Terminals,
- INMARSAT B, C, M;
- NAVTEX receiver;
- EPIRB COSPAS-SARSAT- 406 MHz;
- SART X Band (9,5 GHz).

The flexible design allows the users to specify the communication equipment required to satisfy any individual training needs. The GMDSS Simulator can be used for SAR (Search and Rescue) simulated operations in a multi ship environment. The NORCONTROL CAPELLA GMDSS Simulator, KMSS Norway is certificated by TELENOR, Division Maritime Radio, Norway, as in full compliance with and direct functional and pedagogical evaluation according to STCW95 and TELENOR requirements.

TELENOR, Division Maritime Radio, Norway recommend The NORCONTROL CAPELLA GMDSS Simulator, KMSS Norway, for GMDSS training at any national and international university, academy and special GMDSS training institutions.

NORCONTROL CAPELLA GMDSS Simulator manufactured by KONGSBERG MARITIME NORVEGIA, purchased by Constanta Maritime University was assessed by the ANCOM (NATIONAL AUTHORITY FOR COMMUNICATION) – BUCHAREST, ROMANIA – the national competent body in the field, as complying with the requirements for training and certification as specified in the decision CEPT ERC / Dec/ (99) 01; this document is the basis for the activity of this authority regarding the assessment of the maritime radio operators.

B. Real GMDSS Console: SEA 3 (Ship Station) for A1, A1+A2, A1+A2+A3, A1+A2+A3+A4 GMDSS areas:

SHIP STATION LICENCE No. A/7014/2009

ISSUING ADMINISTRATION: ANCOM (NATIONAL AUTHORITY FOR MANAGEMENT AND REGULATION IN COMMUNICATIONS) / BUCURESTI, ROMANIA

ISSUED 12/02/2009. VALID UNTIL 11.02.2014

SHIP NAME: UMC SCHOOL; MMSI: 264999907 CALLSIGN: YPMJ SELCALL: 57953 IMN (SES INMARSAT C): 426400044 AAIC: RM12

- one fully operational MF/HF transmitter/receiver set for radiotelephone, NBDP and DSC, and MF/HF DSC controller (connected on real antenna): - SEA 330-MF/HF/SSB Radio System & SEACALL 7000 MF/HF DSC CONTROLLER & SEATOR 3000 - HF RADIO TELEX modem and SEA 6606 TOR data terminal;
- one dedicated MF/HF watch receiver for the DSC Distress frequencies:-SEAWATCH SEA.
- two fully operational VHF-DSC radio equipments, connected on real antenna: SEA7156 VHF marine radiotelephone & SEACALL 7100 VHF DSC controller + SIMRAD RD 68 VHF marine radio station with integrated class DDS controller;
- a SES INMARSAT C with EGC receiver facility, connected on real antenna and commissioned in INMARSAT System: - SEASAT3 –SEA 6003 & SEA 6606 message terminal GMDSS INMARSAT C-system
- one NAVTEX receiver connected on real antenna: JRC NRC 300 A NAVTEX RECEIVER.
- 6. 2 two-way portable VHF radiotelephone with charging arrangement: Survival Craft (Portable) GMDSS Maritime VHF radiotelephone type IC -GM1600E (battery for emergency only: type BP 234 Lithium battery pack (Lithium, 9.0V, 3300mAh), validity until July 2013) & battery charging for on board use only:

type BP 252 Lithium battery (Li-ion, 7.4V, 980mAh);

- one real EPIRB 406 MHz, Model: SIMRAD EP50: AUTO, with 406 MHz Cospas Sarsat Distress Beacon Registration Card (EPIRB Battery expiry date: June, 2014), Hydrostatic release - hydrostatic release expiry date: April 2011, Manufacturer: SIMRAD, U. K, age: 0)
 - i. Serial Number 100-14549,

ii. With:
406 MHz COSPAS SARSAT DISTRESS BEACON REGISTRATION CARD
(COSPAS SARSAT Type Approval Number- 163);
PROGRAMMING CERTIFICATE:
Flag: 264 Romania;
Coding: MMSI: 264999907;
Protocol: MMSI;
Unique ID: A10830C30CD70D1
Programmed Message: FF FE 2F 50 84 18 61
86 6B 86 89 73 60 90
406 MHz BEACON WARRANTY FORM;
406 MHz EPIRB- Shore –based Maintenance Record (in accordance with IMO
Guidelines IMO MSC/Circ 1039) (validity until April 22, 2014;

- 8. one EPIRB 406 MHz-121,5 MHz):- Lo-kata with hydrostatic release mechanism;
- 9. one real SART 9,5 GHz, SIMRAD SA50 (Manufacturer: SIMRAD, U. K, age: 0) with
 - a. Non hazardous Lithium battery (SART Battery expiry date: June, 2014) and
 - b. Annual SART TEST REPORT (validity until April 22, 2010);
- 10. one SART 9.5 GHz: SART MC MURDO MARINE RT 9-3.
- 11. 3 pieces Handheld VHF Maritime Radiotelephone type HUSUN 3110 including

extrabattery and chargers (Husun Battery Charger SP3911);

12. 3 pieces Survival Craft (Portable) GMDSS Maritime VHF radiotelephone type JOTRON Tron VHF;

C. other radio systems and equipments

- one fully operational MF/HF transmitter/receiver set for radiotelephone, NBDP and DSC, including MF/HF DSC controller connected on dummy antenna for back-to-back connections: - ICOM IC-M801 MF/HF Marine SSB Transceiver & Combined DSC/MF/HF (Class A DSC);
- 2. two fully operational VHF transmitter/receiver for radiotelephony and DSC, and /or incorporating a DSC watch receiver for channel 70, connected on dummy antennas):- SEA7156 VHF marine radiotelephone & SEACALL 7100 VHF DSC controller + ICOM IC M421 VHF MARINE radio station & VHF DSC Controller;
- 3. a dummy satellite EPIRB (406 MHz):- *Lo-kata* with hydrostatic release mechanism;
- 4. dummy SART adapted for training.
- 5. one GPS receiver connected on real antenna: *FURUNO*.
- 6. one AIS model AI3000 connected on real antenna: AIS AI 3000 EURONAV;

The radio communication systems and equipments operate from CMU's main supply, stepped down to 24 V DC. There is also a reserve source of energy for radio equipments. The equipments and systems are individually fused (ref COMSAR / Circ 2), in order to protect the equipment and the operator in the event of fault.

■ Teaching aids (A)

Classrooms facilities include: a blackboard, whiteboard, flipchart, overhead projector, video projector, PCs, plasma TV. For audio- visual material such as video files, videos, slides, etc. the appropriate equipment is available. (A*)

For practical training, we use The GMDSS Laboratory, an adequate working space and classrooms appropriately equipped.

Other teaching aids are listed bellow.

A1 General operator's Certificate for the Global Maritime Distress and Safety System, Course + Compendium, Model Course IMO 1.25, Printed by PMS UK Ltd London, 2004.

NORCONTROL CAPELLA 5.1 GMDSS SIMULATOR and PC programs,
 including documentation, for the simulation of terrestrial and satellite communication and distress alerting systems and equipments.
 Real console SEA 3.

- A3 User manuals for all installed GMDSS equipment (printed or and video, audio files).
- A4 Radio Log-book
- A5 Real terrestrial and satellite communication and distress alerting systems and equipments, adapted for training and assessment.

(Demonstration equipment (SARTs, portable GMDSS VHFs, EPIRBs, and so on).

- A6 Real equipment as VHF, VHF-DSC, MF/HF including NBDP and DSC and INAMRSAT-C, NAVTEX, AIS, SART, EPIRB.
- A7 INSTRUCTOR'S PACK GMDSS/ GOC (INCLUDING SEARCH AND RESCUE SAR EXERCISES ON CD), Poseidon Education, Leknes, Norway, 2008.

■ IMO References (R)

- R1 GMDSS Manual Global Maritime Distress and Safety System Manual, London,
 IMO, London, U.K., 2007.
- R2 Merchant Ship Search and Rescue Manual (MERSAR), IMO, 1993
- R3 IMO Standard Marine Communications Phrases + CD, IMO publication, London, 2005.
- R4 Master Plan of the shore-based facilities for the GMDSS
- R5 STCW Convention International Convention on Standards of Training, Certification and Watchkeeping for Seafarers / STCW Code -Seafarers' Training, Certification and Watchkeeping Code as amended 1995 & subsequent amendments to the Convention and Code, IMO, London, 2001.
- R6 Resolution A. 814 (19)

R7 SOLAS-International Convention for the Safety of Life at Sea, 2004 consolidated Edition, IMO, London, 2004.
2. SOLAS Amendments 2003, 2004, &2005.
3. SOLAS Amendments 2006.

Textbooks (T

- T1 ITU -MANUAL FOR THE MARITIME MOBILE AND MARITIME MOBILE SATELLITE SERVICES, RADIOCOMMUNICATION BUREAU, Geneva, English Edition 2009.
- T2 .1. *ITU LIST OF COAST STATIONS*, Geneva, 2009.
 - .2. ITU -LIST OF RADIODETERMINATON AND SPECIAL SERVICE STATIONS, Geneva 2008.
 - .3. *ITU- LIST OF CALL SIGN AND NUMERICAL IDENTITIES*, ITU, Geneva, 2009
 - .4. ITU-LIST OF SHIP STATIONS, Geneva, 2009.
 - .5. ITU- RADIO REGULATIONS, Geneva, 2008, ISBN 92-61-12451-8.
 - .6. INMARSAT MARITIME COMMUNICATIONS HANDBOOK INMARSAT -London, U.K. febr. 2000.
 - .7. ADMIRALTY LIST OF RADIO SIGNALS, *COAST RADIO STATIONS*, vo1. 1(1), vo1. 1, 2 NP 281(1-2), 2007/2008, publ by UKHO, London, 2008-2009.
 - .8. ADMIRALTY LIST OF RADIO SIGNALS, RADIO AIDS TO NAVIGATION, ELECTRONIC POSITION FIXING SYSTEMS, LEGAL TIME AND RADIO TIME SIGNALS vol. 2, 20072008 NP 282, publ by UKHO, London, 2009/2010.
 - .9. ADMIRALTY LIST OF RADIO SIGNALS, Maritime Safety Information Services, vol. 3, 2007/2008, NP 283, publ by UKHO, London, 209/2010
 - .10. ADMIRALTY LIST OF RADIO SIGNALS, METEOROLOGICAL OBSERVATION STATIONS, NP 284, vo1.4, 2007/2008 publ by UKHO, London, 2009/2010.

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- .11. ADMIRALTY LIST OF RADIO SIGNALS, GMDSS- GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM, vol. 5, 2007/2008, NP 285, publ by UK Hydrographic Office(UKHO), London, 2008/2009.
- .12. ADMIRALTY LIST OF RADIO SIGNALS, PILOT SERVICES, VESSEL TRAFFIC, SERVICES AND PORT OPERATIONS, vol. 6 (1), (2), (3), 2008/2009, London.
- .13. Harmonization of GMDSS requirements for radio installations on board SQLAS-ships (ref. COMSAR Circ. 32 per 02.01-04);
- .14.European Radiocommunications Committee (ERC) Decision of 10 March 1999 on the harmonized examination syllabus for General Operator's Certificate (GOC) and Restricted Operator's Certificate (ROC) (ERC DEC/99(01).
- .15. Inmarsat SafetyNET User's Handbook .

Bibliography of other publications used in the course (B)

- B1 Graham D. Lees, William G.Williamson, Handbook for Marine Radio Comunication, ed. LLOYD S OF LONDON PRESSLTD., 2004, ISBN 978 1 84311 368.
- **B2** Waugh, *The Maritime Radio and Satellite Communications Manual.* (Shrewbury, Waterline, 1994) (ISBN 1-85810-471-X).
- **B3** GMDSS Course for General Operator's Certificate- Instructor's Guide (4th edition), Poseidon Education, Leknes, Norway, ISBN 82-91839-03-4.
- B4 Tor R Kristensen, GMDSS Course for General Operator's Certificate- Student's WorkBook, (6th edition), Poseidon Education, Leknes, Norway, ISBN 89-91839-08-5, 2003.
- B5 Tor R Kristensen, AN INTRODUCTION TO GMDSS General Operator's

Certificate- GOC (7th edition - revised GOC edition), Poseidon ((Kristensen Marine Communications), Leknes, Norway, ISBN 978-82-92035-21-4, 2008.

- **B6** Codruța Pricop, GMDSS GOC *Tehnici de Instruire*, *(GMDSS GOC Training* Techniques) Editura NAUTICA, Constanța, ISBN 973-7872-01-0, 2005.
- B7 Codruța Pricop, GMDSS GOC *Tehnici de Instruire editia a 2a, (GMDSS GOC Training* Techniques 2 th edition) Editura NAUTICA, Constanța, 2009, ISBN 978-973-7872-94-4.
- B8 Dan Popa *Tehnici si Echipamente GMDSS*, Editura NAUTICA, Constanța, 2009, ISBN 978-973-7872-95-1.

According to QA (MCU QA standards based on ISO 14001: 2004 & ISO 9001: 2008), Constanta Maritime University can ensure training for students included in the curricula, by IMO courses and courses for *long life learning*. For trainees outside the university GMDSS GOC is long *life learning*.

GMDSS – GOC Course addresses to Constanta Maritime University students, enrolled in the Navigation Faculty. It is included in the curriculum of 3rd year of studies. The GMDSS –GOC subject is among compulsory subjects in the curriculum.

For external trainee, the course is of *long life learning type*. Trainee should be at least 18 years old and possess appropriate qualifications and knowledge in radio and maritime navigation fields. Trainees' lists are approved by the Rector of Constanta Maritime University.

Training, assessment and examination activities for GMDSS GOC Course are organized according to the Procedures as stated in the CMU QA Manual (based on ISO 14001: 2004 & ISO 9001: 2008).

Proficiency Certificates are issued according to QA Procedure. Graduated of the course receive from Constanta Maritime University a graduated certificate (attached specimen).

Annex 3 contains the inventory list of documents, books and other teaching aids (Annex 3- MCU-GMDSS Laboratory – Documents, Books –Inventory List).

■ Quality Standards (THE QUALITY SYSTEM AND ADMINISTRATION):

The QA system for CMU was developed locally in accordance the ISO 9001:2008. The system was controlled and found satisfactory as mentioned in GMDSS Audit Report.

The QMS based on ISO 9001 was developed in 2002 and certified by Bureau Veritas in 2003. In 2006 the QMS was integrated with an EMS based on ISO 14001 and recertified by the same certification body. In April 2009 the integrated management system, including the QMS was recertified by BV Certification. (Annex 4 - MCU: QA – Certificates).

From the initial development of the QMS until now no any non-conformity was raised related to GMDSS Course by the QMS Internal Audit or Certification Body. During the operation of QMS some continual improvement recommendations was proposed and successfully implemented into the GMDSS course/department.

The next surveillance audit from Bureau Veritas is planned for April 2010.

Budget

Constanta Maritime University has its own income (from tuition taxes, research projects, etc) and a budget allocated by the Ministry of Education. More information is given in Annex 5 – CMU: Financial Activity.

For CMU students, the course is tax free, the university bearing all costs.

For external trainees GMDDS GOC is 300 euro which covers training, internal examination and internal certification costs.

■ COURSE STRUCTURE, CONTENT and EXAMINATION

The content of the training will ensure that the candidates have the knowledge of the GMDSS system and have the ability to:

- communicate using terrestrial systems operating in the medium, high and very high frequency bands;
- 2. use digital selective calling devices;
- 3. communicate using satellite systems types B, C and FLEET 77;
- 4. operate SARTs and EPIRBs (and test function);
- 5. use ITU and/or ALRS documents;
- 6. carry out maintenance procedures for batteries and aerials;
- 7. avoid the unintentional transmission of false Distress alerts and to use procedures in order to mitigate the effects of false Distress alerts following unintentional transmission.

Course duration is 140 hours (courses, lab and assessment, examination) for all trainees. For our students the course is scheduled in the 1st Semester (14 week- 2 hour course per week, 2 hour lab per week) and in 2nd Semester, (14 week- 3 hour course per week, 3 hour lab per week). Final examination takes place at the end of the course for 8 hours. The schedule is established according to different criteria.

For trainees outside the university the course is scheduled for 25 days, 6 hours per day, according to the schedule. Final examination takes place at the end of the course for 8 hours.

The training is progressive with alternating periods of theoretical and practical instruction and procedures and practical exercises.

Simulator Based Training Methods (SBT) is used for practical training and drills. Practical training based on GMDSS Simulator exercises can be divided intho following steps: briefing, simulator familiarization, conducting and monitoring, debriefing. Simulator exercises can be designed, conducted and controlled by Instructors. These exercises are diverse in scenarios and parameters.

Each candidate is monitored through the whole course and if someone is slowing down, they are encouraged to attend supplementary hours of training organized inside of GMDSS Laboratory when available.

All students have to do homework, which consists of exercises from Students Handbook or study of theoretical issues. Unsupervised homework is estimated to be around 30- 40 hours.

The GMDSS Simulator (Laboratory) is open from 8.00 to 20.00 (according to needs), which is given to students extra possibilities of practical exercises under supervision of minimum one Instructor. The hardware (real GMDSS Console and other real equipments) classroom is open from 8.00 to 16.00 under supervision of minimum one Instructor.

Assessments are designed to establish a candidate's competence in accordance with Table A-IV/2 of STCW Code (see annex A – Specification for training in proficiency in GMDSS GOC: *STCW Code: Table A-IV/2 Specification of minimum standard of competence for GMDSS radio operator*). Assessment consists of both written and practical tests, as described bellow.

Internal assessment and marking

The examination is performed at the Constanta Maritime University (CMU) under the supervision and in the regulatory frame established by National Authority for Management and Regulation for Communications (ANCOM) Bucharest, the responsible authority.

The examination is based on the relevant provisions of ITU Radio Regulations, CEPT/ERC DEC 01/99 and QA rules.

Assessment during the course:

The trainees' activity is permanently monitored, assessed and marked during each simulation session (S1...S14). For each simulation session a trainee can amass a score from 1-5, so that at the end of the course each trainee can amass max 70 points. The assessment is based on competences – STCW 95/AIV/2. (see Annex A – Specification for training in proficiency in GMDSS GOC: STCW Code : Table A-IV/2 Specification of minimum standard of competence for GMDSS radio operator).

The above procedure is according to Constanta Maritime University QA.

Certification

Responsible authority for certification:

- National Authority for Management and Regulation for Communications (ANCOM)
- The above mentioned authority is acting as a regulator and issues the radio operator's certificates in question as well as performing the sensor-activities.
- There is a Radio Licence issued to the Constanta Maritime University.

Examination procedure is as follows:

- examination is based on the relevant provisions of ITU Radio Regulations, CEPT/ERC DEC 01/99 and National Regulation concerning Radio Operator's Certification as approved through the ANCOM President Decision;
- following the provisions of the National Regulation concerning Radio Operator's Certification there is a protocol concluded between ANCOM and Maritime University of Constanta (UMC) dealing with the examination procedure;
- 3. the protocol state the capability of UMC for organizing training sessions under the provisions of the national and international radiocommunications regulations; furthermore, by means of the protocol, ANCOM shall acknowledge the standard phrasing exams, as well as the simulator tests regarding the operation of radiocommunications stations for maritime mobile service and maritime mobile-satellite service;
- 4. for the operator's certificate for the mobile maritime service and mobilesatellite maritime service, the examination consist of:
 - a) general knowledge of the GMDSS and national and international radiocommunications regulations (written exam);
 - b) English language test standard terms and phrases established by IMO (written exam held in the CMU based on the above-mentioned protocol);
 - c) simulation of the GMDSS traffic and SAR search and rescue tests (practical test on a simulator held in the UMC based on the abovementioned protocol);

- 5. the examination held in accordance with the provisions of paragraph (4) letter a) of the National Regulation concerning Radio Operator's Certification, for the general operator's certificate, consists of a set of 50 questions, each question multi choices answers (4), of which only one is correct and complete;
- 6. the examination held in accordance with the provisions of paragraph (4) letter b) of the National Regulation concerning Radio Operator's Certification, for the general operator's certificate, consists of a set of 20 sentences to be translated from the English language into the Romanian language;
- 7. the practical test held in accordance with paragraph (1) letter c) of the National Regulation concerning Radio Operator's Certification, for the general operator's certificate, consists of a practical radio traffic test and two SAR applications;
- 8. the candidates who meet the following criteria: at least 40 correct answers for the examination described in paragraph (1) letter a) of National Regulation concerning Radio Operator's Certification, and at least the passing score 7 (assessment range: from 1 to 10), for the examination described in paragraph (1) letter b) of National Regulation concerning Radio Operator's Certification, shall be declared successful in passing the exam;
- 9. the curriculum for the above mentioned examinations shall have the framework-content stipulated in the Annex 5 of the National Regulation concerning Radio Operator's Certification pursuant to the CEPT Decision ERC/DEC/(99)01.

PART B

GMDSS- GOC:- COURSE OUTLINE GMDSS- GOC: COURSE TIMETABLE
PART B

GMDSS- GOC - COURSE OUTLINE

1	Intro	oduction					
	1.1	The Course					
2	Prino	ciple of maritime radiocommunications					
	2.1	The general principles and basic features of the Maritime Mobile Service					
	2.2	The general principles and basic features of the Maritime Mobile-Satellite Service					
	2.3	Global Maritime and Distress and Safety System (GMDSS)					
3	3.	GMDSS Communication Systems					
	3.1	Purpose and use of Digital Selective Calling (DSC) facilities					
	3.2 Knowledge of the general principles of NBDP and Radio Telex systems. Ability to use maritime NBDP and Radio Telex equipment in practice.						

	3.3	Knowledge of the usage of INMARSAT systems.
		Ability to use INMARSAT equipment or simulator
		in practice.
	3.4	Knowledge of and ability to use in practice the basic
		equipment of a terrestrial ship station
	3.5	Fault location and rectification on GMDSS marine
		electronic equipment
4	Othe	r GMDSS equipment
	4.1	Emergency Positioning-Indicating RadioBeacon
		(EPIRBs)
	4.2	Search and Rescue Radar Transponder (SART)
	4.3	Reception of Maritime Safety Information
5	Distr	ess alerting
	5.1	Search and Rescue (SAR) operation
	5.2	Distress, urgency and safety communication
		procedures in the GMDSS
	5.3	GMDSS satellite Distress, Urgency and Safety
		communication procedures
	5.4	Protection of Distress frequencies and avoidance of
		false Distress alerts
6	MIS	CELLANEOUS SKILLS AND OPERATIONAL

	PRO	PROCEDURES FOR GENERAL COMMUNICATIONS							
	6.1	Ability to use English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea							
	6.2	Obligatory procedures and practices							
	6.3	Practical and theoretical knowledge of general communication procedures							
7	Asse	ssment and discussion							

GMI	DSS GOC - C	COURSE TIMI	ETABLE					
UNIT		CLASS HOURS						
	Theoretical	Practical	Total					
1.0	2.0		2.0					
1.1	2.5		2.5					
2.1	15		15					
2.2	6.0		6.0					
2.3	8.0		8.0					
3.1	5.0	17.5	22,5					
3.2	4.0	2.0	6.0					
3.3	3.0	4.0	7.0					
3.4	4.0	14	18					
3.5		3.0	3.0					
4.1	2.0	0.5	2,5					
4.2	1.0	0.5	1.0					
4.3	2.0	2.0	4.0					
5.1	3.0	1.0	4.0					
5.2	3.0	8.0	11					
5.3	2.0	3.0	5.0					
5.1	2.0	1.0	3.0					

6.1			
6.2			
6.3	4.0	7.0	11
7			8.0
	68.5	63.5	140

Annex A to Specification for training in

Proficiency in GMDSS (GOC)

STCW Code: Table A-IV/2

Specification of minimum standard of competence for GMDSS

radio operators

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
Competence	Knowledge, Understanding and Proficiency	Methods for Demonstrating Competence	Criteria for Evaluating Competence
Transmit and receive information using GMDSS sub-systems and equipment and fulfilling the functional requirements of the GMDSS	In addition to the requirements of the Radio regulations, a knowledge of: .1 search and rescue radiocommunications, including procedures in the IMO <i>Merchant Ship Search</i> <i>and Rescue Manual</i> <i>(MERSAR)</i> .2 the means to prevent the transmission of false distress alerts and the procedures to mitigate the effects of such alerts .3 ship reporting systems .4 radio medical services .5 use of the International Code of Signals and the Standard Marine Navigational Vocabulary as replaced by the Standard Marine Communication Phrases .6 the English language, both	Examination and assessment of evidence obtained from practical demonstration of operational procedures using: .1 approved equipment .2 GMDSS communication simulator, where appropriate .3 radiocommunication laboratory equipment	Transmission and reception of communications comply with international regulations and procedures and are carried out efficiently and effectively English language messages relevant to the safety of the ship and persons on board and protection of the marine environment are correctly handled

	written and spoken, for the communication of information relevant to safety of life at sea		
Provide radio services in an emergency	The provision of radio services in emergencies such as: .1 abandon ship .2 fire on board ship .3 partial or full breakdown of radio installations Preventive measures for the safety of the ship and personnel in connection with hazards related to radio equipment, including electrical and non-ionising radiation hazards	Examination and assessment of evidence obtained from practical demonstration of operational procedures using: .1 approved equipment; .2. GMDSS communication simulator, where appropriate .3 radiocommunication laboratory equipment	Response is carried out efficiently and effectively

PART C

GMDSS GOC – COURSE

DETAILED TEACHING SYLLABUS

LESSON PLANS

TEACHING SYLLABUS 2008-2012

Subject	TH	THE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM- General Operator's Certificate (GMDSS-GOC)							
	ТМ	Year III							
Code	3.1.14/ TM 3.2.14	Semestre	V, V	Ι	Credits		2 /2		
		Number of hours per semester and activities					s per semester and activities		
Faculty	Navigation and Naval Transport				Total	С	S	L	Р
Profile	Naval Engineering and Navigation			V	56	28	-	28	-

84

140

42

70

42

70

-

-

-

-

VI

Approved, RECTOR CMU Prof. Cornel PANAIT, Ph.D

Specialization

DEAN/ DEPARTMENT IMO COURSES

Naval Engineering and Navigation

Prof. Ghiorghe BĂTRINCA, Ph.D

Subject type	SS
FS-fundamental, GS-general, SS- speciality, ES-economic/managerial, HS-humanities	55

Subject category: CS-compulsory, OS-optional, -FS facultative	CS

Prerequisites	Compulsory	
	Recommended	

Learning objectives	 On completion of the training, the trainees will have knowledge of the GMDSS system and be able to take charge of communications with the relevant rescue authority in emergency situations. They will be able to: communicate using terrestrial systems operating in the medium, high and very high frequency band. use digital selective calling devices. communicate using satellite systems types A, B, Fleet 77 and C operate and test SARTs and EPIRBs use ITU and/or ALRS documents carry out maintenance procedures for batteries and aerials 							
Competencies	Transmit and receive information using GMDSS subsystems and equipment and fulfilling the GMDSS requirements of functional; Operate the appropriate range of GMDSS sub-systems and equipment and to use relevant documents to meet the demands of distress, urgency, safety and general communications in accordance with the Radio Regulations and International Convention for the Safety of Life at Sea (Solas) 1974 as ammended.							
Course outline	IMO Model course	IMO/CEPT REFERENCES	Textbook bybliogray	Teaching Aids				
	1.25/1				1. Introduction (2,0 hour)			
	1.25/1.1	R1-Pt4	T3.1	A1-Sect.1	1.1 The Course (2,5 hours)			
	1.25/1.1.1				1.1.1 States the background and purpose of the GMDSS			

				- definition of sea areas : areas A1, A2 ₅ A3 and A4	
				- dates of implementation	
1.25/1.2	R1-Pt4	T3.1	A1-Sect.1	1.1.2 States the requirements for radio installations in the GMDSS:	
	R7			- details of carriage requirements	
				- details of the communications equipment used in each area - methods of Distress, Urgency	
				and Safety alerting	
1.25/1.3	R7		A1-Sect.1	1.1.3 States the certification requirements in the GMDSS	
	CEPT -A			A. KNOWLEDGE OF THE BASIC FEATURES OF THE MARITIME MOBILE SERVICE	
				AND THE MARITIME MOBILE – SATELLITE SERVICE	
1.25/2	R1-Pt3			2. Principle of Maritime communications	
1.25/2	CEPT –A1.1			2.1 The general principles and basic features of the Maritime Mobile Service (15,0) hours	
1.25/2.1.1	CEPT –	T1-RR1		2.1.1 State of types of communication in the Maritime Mobile Service	
	A1.1.1			- Distress, urgency and safety communications	
				- Public correspondence	
				- Port operations and ship movement service	
				- Intership communications	
				- On-board communications	
1.252/2.1.	CEPT –	T2.1, T.2.2,		2.1.2 State the types of station in the Maritime Mobile Service	
2	A1.1.2	T2.4		- Ship stations	
				- Coast stations	
				- Pilot stations, port stations etc.	
				- Aircraft stations	
				- Rescue coordination centre RC	
1.25/2.1.3	CEPT –	T1-RR2,	A1-Sect.3	2.1.3 Elementary knowledge of frequencies and frequency bands	
	A1.1.3	RR4,		- The concept of frequency	
		AP6& AP14		- The equivalence between frequency and wavelength	
				- The unit of frequency: Hz, kHz, MHz, GHz	
				- The subdivision of the most significant part of the radio spectrum: MF, HF, VHF, UHF, SHF	
1.25/2.1.4	CEPT –	T1-RR8,	A1-Sect.3	2.1.4 Characteristics of frequencies/radio propagation	
	A1.1.4	RR38,		- Different basic propagation mechanisms: propagation in free space, ground wave,	
		RRN38,		ionospheric propagation	

		RRN40 & RR60		 Propagation of MF frequencies Propagation of different HF frequency bands Propagation of VHF and UHF frequencies describes maximum usable frequency (MUF) describes optimum traffic frequency (OTF) and calculation describes how to select the correct frequency bands for short-, medium and long-range communications by day and night describes purposes and action of automatic gain control details frequencies used for satellite communications 	
1.25/2.1.5	CEPT – A1.1.6		A1-Sect.4	 2.1.5. Elementary knowledge of different types of modulation and classes of emission Classes of emission Carrier frequency and assigned frequency Bandwidth of different emissions Official designations of emissions (e.g. F1B,J3E,A3E,AIA etc.) Unofficial designations of emissions (e.g.TLX,SSB,AM,CW etc.) 	
1.25/2.1.6	CEPT – A1.1.5			 2.1.6 Knowledge of the role of the various modes of communication DSC Radiotelephony NBDP Facsimile Data Morse telegraphy 	
1.25/2.1.7	CEPT – A1.1.7		A1-Sect.18	 2.1.7 Frequencies allocated to the Maritime Mobile Service The usage of MF, HF, VHF, UHF and SHF frequencies in the maritime mobile service The concept of radio channel. Simplex, semi-duplex and duplex. Paired and unpaired frequencies. 	

				RR Ap.18	 Frequency plans and channelling systems: HF telephony (Relevant appendix of the Radio Regulations) VHF telephony (Relevant appendices of the Radio Regulations) HF NBDP (Relevant appendices of the Radio Regulations) MF telephony and NBDP for Region 1 (Geneva 85 plan) GMDSS distress and safety frequencies Distress and safety frequencies of the pre-GMDSS system Calling frequencies the correct usage of frequency, frequency bands and modes of emission for maritime communications as required by the Radio Regulations frequencies for Distress, Urgency and Safety communications for GMDS purposes as required by the Radio Regulations the frequencies for routine call and reply 	
1	.25/2.2	R1/Pt 3.2 CEPT-A2	T3.1, T3.2	A1-Sect.11	2.2. The general principles and basic features of the Maritime Mobile-Satellite Service (6h)	
1	1.25/2.2.1	CEPT- A2.2.1			 2.2.1 Basic knowledge of satellite communications INMARSAT Space segment Modes of communication Telex services Telephone services Data and facsimile communications Store and forward operation Distress and safety communications services INMARSAT-A/B communications services INMARSAT-C communications services INMARSAT Enhanced Group Call (EGC) system INMARSAT-M communication services Distress, Urgency and Safety communications via satellite 	

1.25/2.2.2	CEPT-	A1-	2.2.2. Types of station in the maritime mobile-satellite service	
	A2.2.2	Sect.1&11	- Coast Earth Stations (CESs) and their operations and their operations;	
			- Network Co-ordination Stations (NCSs) and their operations;	
			- Ship Earth Stations (SESs) and their operations	
1.25/2.3			2.3. Global Maritime and Distress and Safety System (GMDSS) (8h)	
1.25/2.3.1	R1-Pt 1,2,	A1-	2.3.1 Functional requirements of ship stations:	
	4,7& 8+	Sect.1&2	- details of equipment specifications A1, A2, A3&A4	
	Annex 1		- definitions of coverage and sea areas for	
	R4,		Digital Selective Calling (DSC)	
	R5		- details of carriage requirements	
			- describes Maritime Safety Information (MSI) services	
			- Watchkeeping procedures as defined in the	
			Radio Regulations and the STCW Code	
1.25/2.3.2	R1-Pt 1,2,	A1-Sect.15	2.3.2 Sources of power:	
	4,7& 8+		- reserve power supplies, capacity and	
	Annex 1		duration as defined in SOLAS Convention	
			- reserve/emergency source of energy	
			- prohibitions on the connection of non-GMDSS	
			equipment	
			- reserve source of energy	
1.25/2.3.3	R1-Pt 1.2.	A1-Sect.1	2.3.3 Means of ensuring availability of ship station	
1120/21010	4 7& 8+		equipment	
	Annex 1		- equipment duplication	
			- maintenance strategies and requirements	
			for the GMDSS as defined in the SOLAS	
			Convention and the Radio Regulations	
1.25/2.3.4			2.3.4 Primary and secondary means of alerting	
1.25/2.3.5	R1-Pt 1,2,	A1-Sect.1	2.3.5 Ship licences and radio certificates:	
	4,7& 8+		- details shown on the ships radio licence	
	Annex 1		- requirements for radio safety certificates	

1.25/2.3.6	R5		A1-Sect.10 A5	 2.3.6 Record keeping and log-book requirements for ship stations: details of log-book daily entries details of all other periodic entries to include results of equipment tests etc. as required by the Radio Regulations. 	
1.25	CEPT-B			B. DETAILED PRACTICAL KNOWLEDGE AND ABILITY TO USE THE BASIC EQUIPMENT OF A SHIP STATION	
1.25/3		T1-RRN39, RRN40, RRN41, RRN62 DSC/III DSC/IV DSC/V	A1- Sect.5&6 A2.4 A3	3. GMDSS Communication Systems	
1.25/3.1	R1-Pt 3,			3.1 Purpose and use of Digital Selective Calling (DSC) facilities (22,5 hours)	
1.25/	CEPT-B2			Digital Selective Calling (DSC)	
1.25/3.1.1				 3.1.1. Basic function of DCS - DSC message types - DSC call format - frequency selection in call format - call acknowledgment - call relay process 	
1.25/3.1.2	CEPT- B2.2.1			 3.1.2.Call format specifier distress call all ships call call to individual station geographic area call group call automatic/semi-automatic service 	
1.25/3.1.3	CEPT- B2.2.2	T2.1, T2.3		 3.1.3. The Maritime mobile Service Identity (MMSI) and selection of the MMSI for calling: Call address selection with the MMSI number the nationality identification group calling numbers 	

				- coast station numbers	
				- ship station numbers	
1.25/3.1.4	CEPT-			3.1.4. Call categorisation	
	B2.2.3			- distress	
				- urgency	
				- safety	
				- other communications	
1.25/3.1.5	CEPT-			3.1.5. Call telecommand and traffic information:	
	B2.2.4			- Distress alert;	
				- undesignated Distress messages;	
				- Distress co-ordinates;	
				- time and validity of Distress co-ordinates;	
				- other calls and messages;	
				- working frequencies and channel selection	
1.25/3.1.6				3.1.6. Test Calls	
1.25/3.1.7	CEPT-		A2.4	3.1.7. DSC facilities and usage:	
1120/0111	B2.2.5			- channel 70 instant alert selector	
				- the 2187.5 kHz instant alert selector	
				- manual selection of modes for further communication	
				- methods of DSC data entry and retrieval	
				■ undating vessel position	
				entering preset message	
				 reviewing received messages 	
1.25/3.2	R1-Pt 5	T1-RRN39	A1-Sect 7	3.2 Knowledge of the general principles of NRDP and Radio Telex systems.	
1.20/0.2	CEPT-B3	RRN40	A2 3	Ability to use maritime NRDP and Radio Teley equipment in practice (6.0 hours)	
	2211 22	RR64			
		DPT/1			
		211/1		l	

					_
1.25/3.2.1	CEPT-	T2.1, T2.4		3.2.1 NBDP systems	
	B3.3.1			- Automatic systems	
				- Semi-automatic systems	
				- Manual systems	
				- ARQ mode	
				- FEC mode	
				- ISS/IRS arrangement	
				- Master and slave	
				- Radio telex numbering system	
				- Answerback	
1 25/3 2 2	CEPT			3.2.2 Padio Telev equipment	
1.23/3.2.2	B3 3 2			- Controls and indicators	
	DJ.J.2			Keyboard operation	
1 25/3 3	R1_Pt 3 2		Al-Sect 11	3.3 Knowledge of the usage of INMARSAT systems. Ability to use INMARSAT	
1.23/3.3	CEPT-B4		111-50001.11	equipment or simulator in practice (7.0 hours)	
1 25/3 3 1	CLI I D4	T3 1 T3 2		3 3 1 Inmarsat satellite systems and network:	
1.23/3.3.1		15.1, 15.2		- the basic features of the Inmarsat network including: extent of global coverage	
				- ocean regions	
				- network co-ordination stations (NCS)	
				- overview of Inmarsat($-A * * -B/-C/-F$ and $-M$ systems	
				- the use of different Inmarsat systems within the GMDSS	
1 25/3 3 2	CEPT-	T3 1 T3 2		3.3.2 Operation of INMARSAT_A/B Shin Earth Station	
1.23/3.3.2	B4 4 1	15.1, 15.2		- Satellite acquisition	
	D7.7.1			- Telex services	
				- Telephone services	
				- Data and facsimile communications	
1.25/3.3.3		T31 T32	A2.1	3.3.3 Description and demonstration of an 'nmarsat-A ships earth station	
				(according to national needs as the Inmarsat A - out of service after 1 February 2007):	
				- components of an Inmarsat-A ship earth station	
				- method of acquiring satellite both manually and	
				automatically	
				- usage of an Inmarsat-A ship earth station	
				- procedure for sending a Distress message or	

				 call using Inmarsat-A use of 2-digit code service via Inmarsat-A basic procedure for sending and receiving Inmarsat-A basic procedure for making a telephone call using Inmarsat-A 	
1.25/3.3.4		T3.1, T3.2	A2.1	 3.3.4 Description and demonstration of an Inmarsat-B earth station. components of an Inmarsat-B ship earth station the basic difference between Inmarsat-A and Inmarsat-IB ship earth station method of acquiring satellite both manually and automatically usage of an Inmarsat-B ship earth station procedure for sending a Distress alert/message or call using Inmarsat-B use of 2-dsgit code service via Inmarsat-B basic procedure for sending and receiving Inmarsat-B telex messages (may be omitted) basic procedure for making a telephone call using Inmarsat-B 	
1.25/3.3.5	CEPT- B4.4.3	T3.1, T3.2, T3.4	A2.1	 3.3.5 Description and demonstration of an Inmarsat-C ship earth station Components of an INMARSAT-C terminal Entering/updating position Usage of an INMARSAT-C Ship Earth Station Sending and receiving text messages; Distress and safety services Sending a distress alert Sending a distress priority message The INMARSAT-C safety services; 	
1.25/3.3.3	CEPT-	13.1, 13.2,	A2.2	3.3.6 Inmarsat (Enhanced Group Calling) EGC receiver:	

	B4.4.2	T3.4		 components of an EGC receiver (usually incorporated in an Inmarsat-C) entering and updating ship's position both manually and automatically usage of an Inmarsat EGC receiver Ship Earth St St. pre-programming an SES for EGC message reception selecting operating mode for EGC reception 	
1.25/3.3.3		T3.1		 3.3.7 Inmarsat-M ship earth station : components of an Inmarsat-M ship earth station the basic difference between inmarsat(-A)/-B and Inmarsat-M ship earth station the limitations regarding Inmarsat-M and the GMDSS method of acquiring satellite both manually and automatically usage of an Inmarsat-M ship earth station procedure for sending a Distress alert/call using Inmarsat-M ship earth station use of 2-digit code service via Inmarsat-M basic procedure for making a telephone call using Inmarsat-M 	
1.25/3.4	CEPT-B1			3.4.Knowledge of and ability to use in practice the basic equipment of a terrestrial ship station (18 h)	
1.25/3.4.1	CEPT- B1.1.1		A3	 3.4.1.The purpose of watchkeeping receivers The controls and usage of VHF DSC watch receiver The controls and usage of MF DSC watch receiver and MF/HF DSC watch receiver 	
1.25/3.4.2	CEPT- B1.1.2		A3	3.4.2. The usage and functions of the VHF radio installation - Channels - Controls	

				- Usage - DSC facilities	
1.25/3.4.3	CEPT- B1.1.3		A3	 3.4.3. The usage and functions of the MF/HF radio installation: use and selection of frequencies typical controls and usage connection of the power selecting the RX (receive) frequency selecting TX (transmit) frequency selecting ITU channel number tuning the transmitter selecting the class of emission using volume control and squelch using of clarifier or RX (receiver) fine Tuning controlling RF gain 	
1.25/3.4.4	CEPT- B1.1.6			 3.4.4. Survival craft radio equipment Portable two-way VHF radiotelephone apparatus Portable two-way VHF on scene communications SART EPIRBs 	
1.25/3.4.5	CEPT- B1.1.4	T3.2	A1-Sect16	 3.4.5. Basic antennas systems - Isolators - VHF whip antennas - MF/HF whip antennas - MF/HF wire antennas - Satellite antennas 	
1.25/3.4.6	CEPT- B1.1.5		A1-Sect15 A3	 3.4.6. Batteries storage systems Different kinds of batteries and their characteristics; UPS systems Charging of batteries Maintenance of batteries UPS systems 	

1.25/3.5	CEPT-B5			3.5 Fault location and rectification on GMDSS marine electronic equipment (3 hours)	
1.25/3.5.1	CEPT-B5.1		Al		
				3.5.1 Proficiency in elementary fault location by means of:	
				- use of manufacturer's documentation to locate simple faults	
				- basic knowledge of location of major	
				components	
				- use of built-in test measuring instruments	
				- use of software in accordance w/the equipm,	
				manuals	wible fue
1 25/4				4 Other CMDSS equipment	ssible lus
1.25/4	D1 D: 2.2		A1.0 (12)	4. Other GMD55 equipment	
1.25/4.1	RI-Pt 3.2,		Al-Sect.13	4.1. Emergency Positioning-Indicating RadioBeacon (EPIRBs) (2,5 hours)	
	3.3 CEDT C4		AS		
1 25/4 1 1	CEPT-C4		AO	4.1.1 Description of the COSDAS SADSAT sotallite system and EDIDDs:	
1.25/4.1.1	CEP1-C4.4.1			4.1.1. Description of the COSPAS-SARSAT satellite system and signal routing/nath	
				- the basic operation of the CQSFAS-SAKSAT saterifie system and signal fouring/paul	
	CEPT-C4.4.1	-	-	- basic characteristics of operation on 406MHz EPIRB	
		-	-	- the registration and coding of a 406 MHz EPIRB	
	CEPT-C4.4.1	-	-	- basic characteristics of operation on 1.6 GHz EPIRB	
			1	r · · · · · · · · ·	

Image: Section of the information content of a Distress alert; - - EPIRB including homing function -						
1.25/4.1.2 CEPT-C4.4.1 T3.1, T3.2, T3.3 A1-Sect.13 4.1.2. The Inmarsat -E EPIRB - the basic operations of the 1.6 GHz (L-band) EPIRB - the basic operations of the 1.6 GHz (L-band) EPIRB A6 - the information content of a Distress alert; - registration and coding of an L-band EPIRB - manual operation - the float-free function - the correct use of the lanyard - routine maintenance procedures - testing requirements and test operation - checking battery expiry date - cleaning/checking float-free mechanism 1.25/4.1.3 CEPT-C4.4.2 4.1.3. VHF-DSC-EPIRB - Basic characteristics of operation on CH70 - safe handling procedures - stopping an unintended false Distress alerts - safe handling procedures - stopping an unintended false Distress alerts - safe handling procedures - stopping an unintended false Distress transmission - transportation precautions 1.25/4.1.5 A1-Sect.13 A6 A1-Sect.13 A6 A1-Sect.9 1.25/4.1.5 A1-Sect.13 A6 A1-Sect.13 A1-Sect.13 A1-Sect.13 A1-Sect.13			-	-	 EPIRB including homing function the information content of a Distress alert; manual usage/operation the float-free function the correct use of the lanyard routine maintenance testing requirements and test operation checking battery expiry date cleaning/checking float-free mechanism expiry date 	
1.25/4.1.3 CEPT-C4.4.2 4.1.3. VHF-DSC-EPIRB - Basic characteristics of operation on CH70 1.25/4.1.4 R6 T3.1 A1-Sect.13 4.1.4. Precautions taken to avoid false Distress alerts - safe handling procedures - stopping an unintended false Distress transmission - transportation precautions 1.25/4.1.5 A1-Sect.13 A1-Sect.13 A6 4.1.5. Additional EPIRB features: - the 121,5 MHz SAR and homing function - the strobe light function	1.25/4.1.2	CEPT-C4.4.1	T3.1, T3.2, T3.3	A1-Sect.13 A3 A6	 4.1.2. The Inmarsat -E EPIRB the basic operations of the 1.6 GHz (L-band) EPIRB the information content of a Distress alert; registration and coding of an L-band EPIRB manual operation the float-free function the correct use of the lanyard routine maintenance procedures testing requirements and test operation checking battery expiry date cleaning/checking float-free mechanism 	
1.25/4.1.4 R6 T3.1 A1-Sect.13 4.1.4. Precautions taken to avoid false Distress alerts - safe handling procedures - stopping an unintended false Distress transmission 1.25/4.1.5 A1-Sect.13 A1-Sect.13 4.1.5. Additional EPIRB features: - transportation precautions 1.25/4.1.5 A1-Sect.13 A1-Sect.13 4.1.5. Additional EPIRB features: - the 121,5 MHz SAR and homing function - the strobe light function 1.25/4.2 CERT_C5.5.1 A2 Secret and Passace Bader Transponder (SABT) (1.5 hour)	1.25/4.1.3	CEPT-C4.4.2			4.1.3. VHF-DSC-EPIRBBasic characteristics of operation on CH70	
1.25/4.1.5 A1-Sect.13 4.1.5. Additional EPIRB features: A6 - the 121,5 MHz SAR and homing function - the strobe light function	1.25/4.1.4	R6	T3.1	A1-Sect.13	 4.1.4. Precautions taken to avoid false Distress alerts - safe handling procedures - stopping an unintended false Distress transmission - transportation precautions 	
1 25/4 2 CEDT C5.5.1 4.2 Second and Decays Deday Transponder (SADT) (1.5 hours)	1.25/4.1.5			A1-Sect.13 A6	 4.1.5. Additional EPIRB features: the 121,5 MHz SAR and homing function the strobe light function 	
1.25/4.2 CET 1-C5.5.1 4.2 Search and Rescue Kadar Fransponder (SAK1) (1,5 nour)	1.25/4.2	CEPT-C5.5.1			4.2 Search and Rescue Radar Transponder (SART) (1,5 hour)	

1.25/4.2.1	R1-Pt 3.5		A1-Sect.13	4.2.1. Operation and use of SARTs	
	CEPT-C5.5.1		A3	- the main technical characteristics	
			A6	- demonstration of operation, height and range	
				- considerations	
				- demonstration of the effect of a radar	
				- demonstration of the radar screen indication	
				- demonstration of SART testing procedures	
				- routine maintenance procedures operation checking battery expiry date	
1.25/4.3	CEPT-C6.6.3	T1-DPT/II	A1-Sect.12	4.3 Reception of Maritime Safety Information (4.0 hours)	
1.25/4.3.1	R1-Pt			4.3.1 Purpose and use of MSI services:	
	3.7+annex			- message types constituting MSI	
	4.2			- availability of MSI services	
				- the use of published data on MSI services	
1.25/4.3.2				4.3.2. Services available and methods of transmission:	
				- MS! by satellite	
				- MSI by MF and HF	
				- MSI by HF telex	
1.25/4.3.3	CEPT-C3		A3	4.3.3 Operation and use of the NAVTEX system:	
				- Purpose of NAVTEX	
	CEPT-C3.1			- operation of the NAVTEX receiver	
				- NAVTEX frequencies	
				- coverage areas of transmissions	
				- reception range of transmitters	
				- message format (transmitter ID, message type,	
				message number)	
				- NAVTEX receiver	
				■ selection of transmitters	
	CEPT-C3.2			■ selection of message types	
				messages types which cannot be rejected	
				use of subsidiary controls and changing paper	
				- use of receiver controls	
	OPPER CO. C.	T2 4			
1.25/4.3.4	CEPT-C2.2.3	13.4	A3,	4.3.4. Operation and use of the International SafetyNET Operation and use of the International	11
			A2.2	SafetyNET system/Inmarsat EGC:	

				 purpose of the EGC system all-ships message and Inmarsat system messages classes of Inmarsat-C SES and their EGC reception describtion of EGC facilities program EGC receiver/Inmarsat-C equipment for reception of EGC/SafetyNET messages Updates ship's position both manually and automatically selection of mode for EGC reception 	
1.25	CEPT-C			C. OPERATIONAL PROCEDURES AND DETAILED PRACTICAL OPERATION OF GMDSS SYSTEM AND SUBSYSTEMS	
	CEPT-C1.1	-	-	- Global Maritime Distress and Safety System (GMDSS)	
	CEPT- C.1.1.1			- Sea Areas and the GMDSS master plan	
	CEPT- C.1.1.2	-	-	- Watchkeeping on Distress frequencies as defined in the Radio Regulations, the SOLAS Convention and the STCW Convention	
	CEPT- C.1.1.3	-	-	- functional requirements of ship stations	
	CEPT- C.1.1.4	-	-	- carriage requirements of ship stations	
	CEPT- C.1.1.5	-	-	- sources of energy of ship stations including emergency reserve source of energy	
	CEPT- C.1.1.6	-	-	- means of ensuring availability of ship station equipment	
	CEPT- C.1.1.7	-	-	- Licences, radio safety certificates, radio operator certificates, inspections and surveys	
1.25/5	R4			5. Distress alerting	
1.25/5.	I CEPT-C8			5.1 Search and Rescue (SAR) operation (4.0 hours)	
1.25/5.	I.1 R2 R1-Pt 2.2&			5.1.1 The role of RCCs (the Rescue Co-ordination Centre):	

						_
		3.2			 Maritime Rescue Organisations knowledge of SAR systems worldwide knowledge of SAR systems interconnection 	
1.2	25/5.1.2	R2 R1-Pt 2.2& 3.2			5.1.2. The role of SAR: -Merchant Ship Search and Rescue Manual (MERSAR)	
1.2	25/5.1.3				5.1.3. The role and method of use of ship reporting systems:AMVER, JASREP, AtJSREP, etc	
1.2	25/5.2	R2,R7 CEPT-C6	T1-Ch.IX & Ch. NIX		5.2 Distress, urgency and safety communication procedures in the GMDSS (11.0 h)	
	25/5.2.1	CEPT- C6.6.1		A1-Sect.7 A3	 5.2.1 Distress communications DSC distress alert The definition of a distress alert Transmission of a distress alert Transmission of a shore-to-ship distress alert relay Transmission of a ship-to-shore distress alert relay Transmission of a distress alert by a station not itself in distress Receipt and acknowledgement of DSC distress alert Acknowledgement procedure by radiotelephony Acknowledgement procedure by NBDP Receipt and acknowledgement by a coast station Receipt and acknowledgement by a ship station Handling of distress alerts Preparations for handling of distress traffic Distress traffic terminology Testing DSC distress and safety calls Cancelling false distress alerts On-scene communications SAR operation 	

r						
	1.25/5.2.2	CEPT-		A1-Sect. 9	5.2.2. Urgency and safety communications	
		C6.6.2		A3	- The meaning of urgency and safety communications	
					- Procedures for DSC urgency and safety calls	
					- Urgency communications	
					- Radio medical services	
					- Medical transports	
					- Safety communications	
	1.25/5.2.3	CEPT-C7		A1-Sect. 8		
				A3	5.2.3. Describtion of radiotelephon procedures for Distress, Urgency and Safety communication	ons with 1
					radiotelephony:	
					- the radiotelephone 2182 kHz alarm signal	
					- the Distress signal	
					- the Distress call	
					- the Distress message	
					- acknowledgement of Distress messages	
					- Urgency signal	
					- request for medical advice	
					- Safety signal	
	1.25/5.2.4	CEPT-		A1-Sect. 8	5.2.4. Reception of Maritime Safety Information (MSI)	
		C6.6.6		A3	- reception by NAVTEX	
					- reception by Inmarsat EGC	
					- reception by HF NBDP	
					- the navigational warning signal of the old Distress and Safety System	
					- the navigational warning signal transmitted by radio telephony	
	1.25/5.3				5.3. GMDSS satellite Distress, Urgency and Safety communication procedures	
			13.1	AI-Sect.II	(5,0 hours)	
	1.25/5.3.1			A2.1	5.3.1 The Inmarsat (-A)/-B Ship Earth Station alerting functions	
					- use of the Distress facility	
					- Distress and Safety procedures	
					- methods of initiating alerts	
					- satellite acquisition	
					(telex) and telephony distress calls	
					(telex) and telephony Urgency and Safety calls	
					procedures for preparation of calls	
				A2.2		

				details of Rescue Co-ordination Centres (RCCs) associated with Coast Earth Stations (CESs)	
1.25/5.3.2					
				5.3.2. Inmarsat C Ship Earth Station alerting functions:	
				- Distress and Safety procedures/services	
				- satellite acquisition	
				- methods of initiating alerts	
				- sending a Distress alert	
				- sending a Distress priority message	
				- Inmarsat-C Safety services	
				- 2-digit special access codes and thei purpose	
1.25/5.3.3				5.3.3 Bridge alarm panel for passenger ships (****) - connection to VHF-DSC,	
				MF/HF-DSC and Inmarsat C and why	
1.25/5.4	CEPT-			5.4 Protection of Distress frequencies and avoidance of false Distress alerts (3.0 hours)	
	C6.6.4				
1.25/5.4.1	R6		A1-Sect.6,	5.4.1.Methods of preventing false Distress alerts	
			11 & 13		
1.25/5.4.2	R6		A1-Sect.6,		
			11 & 13	5.4.2. Procedures to minimize the effect of a false Distress alert	
1.25/5.4.3			Al-Sect.6,	5.4.3. Testing procedures for GMDSS equipment/on Distress frequencies	
			11 & 13		
1.25/5.4.4			A1-Sect.8	5.4.4. Prohibitions of transmissions during Distress traffic	
1.25/5.4.5			A1-Sect.14	5.4.5.Procedures to avoid harmful interference	
1.25/5.4.6				5.4.6.Regulations regarding prevention of unauthorized transmissions	
1.25/6	CEPT-D				
				(D)6. MISCELLANEOUS SKILLS AND OPERATIONAL PROCEDURES FOR GENE	RAL
				COMMUNICATIONS (11 hours)	
1.25/6.1	R5	T1-AP10,		6.1. Ability to use English language, both written and spoken, for the satisfactory exchan	ge
	CEPT-D1	AP14 &		of communications relevant to the safety of life at sea	
		AP24			
1.25/6.1.1	R3			6.1.1. Explanation of the use of obligatory documents and publications including the use of th	e
				International.Code of Signals and the IMO Standard Marine Communication Phrases	
1.25/6.1.2				6.1.2. Recognition of standard abbreviations and commonly used service codes	
1.25/6.1.3				6.1.3. Description of the use of International Phonetic Alphabet	

1.25/6.2	CEPT-D2		A1-Sect.10	6.2 Obligatory procedures and practices	
1.25/6.2.1		T1-AP11. T2 to T2.4	A1-Sect.10 A4	6. 2.1 Effective use of obligatory documents and publications- detailed methods of updating information	
1.25/6.2.2	R5	T1	A1-Sect.10 A5	6. 2.2. Procedures Radio record keeping:-details log-book requirements and mandatory entries	
1.25/6.2.3				6. 2.3 Detailed knowledge of the regulations and agreements governing the Maritime Mobil Service and the Maritime Mobile-Satellite Service	le
1.25/6.3	CEPT-D3			6.3.Practical and theoretical knowledge of general communication procedures	
1.25/6.3.1		T1 T2.1, T2.2	A1-Sect.14 A4	 6.3.1 Selection of appropriate communication methods in different situations: -use of obligatory documentation to determine frequencies -use of propagation tables 	
1.25/6.3.2	CEPT-D3.3.2	T2.1, T2.2		6. 3.2 The use of obligatory documentation to receive traffic lists and meteorological information	
1.25/6.3.3	CEPT-D3.3.3	T1	A1-Sect.10 & 17 A3	 6.3.3 Radio telephone calls: Procedures for radiotelephone calls: method of calling coast station by a radio telephony requesting/ordering for a manually switched link call terminating/ending a call special facilities of calls available methods of calling a coast station by DSC selecting an automatic radio telephone call 	
1.25/6.3.4		T1-D90 & F110	A1-Sect.17	 6.3.4 Details of radio telegram the preamble service instructions accounting authority identification code (AAIC) the address the text the signature 	

		1				
	1.25/6.3.3	CEPT-D3.3.4	T1-D90 & F110	A1-Sect.17	 types of addressing available full address registered address telephonic address telex address (may be omitted) counting words transmission of telegram by radiotelegrafy 6.3.5 Methods of traffic charges: the international charging and accounting 	
			T3.1		 system Inmarsat communication charging systems the AAIC code and use of documentation to determine/verify it the meaning of landline (LL), coast station (CC) and ship station (SC) charge currencies used in charging and conversion gold francs and special drawing rights, etc. practical traffic routines 	
					6.3.6 World geography, especially the principal shipping routes and related communication Routes	
					7 Assessment and discussion (8h)	
Tests and assignments						

Assessment (E-exam	nination, T-final test, P-projects)	E/T
Marking	-answers in exams/tests/practical works	60%

(percentage)	-othe	r applications/laboratories/practical works/projects, etc.	10%
	-tests	during the semester	10%
	-assig	nment	10%
	1.	General operator's Certificate for The Global Maritime Distress and Safety System, Cou	urse + Compendium, Model Course IMO 1.25, Printed
		by PMS UK Ltd London, 2004, ISBN 92-801-1430-1.	
	2.	Restricted operator's Certificate for The Global Maritime Distress and Safety System, Co	urse + Compendium, Model Course IMO 1.26, Printed
		by PMS UK Ltd London, 2004, ISBN 92-801-4182-1.	
	3.	Second Class Radioelectronic Certificate for The Global Maritime Distress and Safety	System, Course + Compendium, Model Course IMO
		1.25, Printed by PiMS UK Ltd London.	
	4.	GMDSS Manual- Global Maritime Distress and Safety System-Manual, London, IMO, London	lon, U.K., 2007.
	5.	European Radiocommunications Committee ERC Decision of 10 March 1999 on the h	armonised examination syllabi for General Operator's
Bibliography		Certificate (GOC) and Restricted Operator's Certificate (ROC) (ERC 99(01).	
	6.	Merchant Ship Search and Rescue Manual (MERSAR), IMO, 1993,	
	7.	IMO Standard Marine Communications Phrases + CD, IMO publication, London, 2005.	
	8.	STCW Convention - International Convention on Standards of Training, Certification	on and Watchkeeping for Seafarers / STCW Code -
		Seafarers' Training, Certification and Watchkeeping Code as ammended 1995 & subsec	uent amendaments to the Convention and Code, IMO,
		London, 2001.	
	9.	SOLAS-International Convention for the Safety of Life at Sea, 2004 consolidated Edition, IMC), London, 2004.
	10.	SOLAS Amendaments 2003, 2004, &2005.	
	11.	SOLAS Amendaments 2006.	
	12.	MANUAL FOR THE MARITIME MOBILE AND MARITIME MOBILE SATELLITE SER	<i>VICES</i> – ITU, RADIOCOMMUNICATION BUREAU,

	Geneva, English Edition 2009.
13.	LIST OF COAST STATIONS, ITU, Geneva, 2009.
14.	LIST OF SHIP STATIONS, ITU, Geneva, 2009.
15.	LIST OF CALL SIGN AND NUMERICAL IDENTITIES, ITU, Geneva, 2009.
16.	LIST OF RADIODETERMINATON AND SPECIAL SERVICE STATIONS, ITU, Geneva 2008.
17.	RADIO REGULATIONS, ITU, Geneva, 2008, ISBN 92-61-12451-8.
18.	INMARSAT MARITIME COMMUNICATIONS HANDBOOK - INMARSAT - London, U.K. febr. 2000.
19.	Harmonization of GMDSS requirements for radio installations on board SOLAS-ships (ref COMSAR Circ 32 per 02.01-04);
20.	ADMIRALTY LIST OF RADIO SIGNALS, COAST RADIO STATIONS, vol. 1(1), vol. 1, 2 NP 281(1-2), 2007/2008, publ by UKHO, London, 2008-
	2009.
21.	ADMIRALTY LIST OF RADIO SIGNALS, RADIO AIDS TO NAVIGATION, ELECTRONIC POSITION FIXING SYSTEMS, LEGAL TIME AND
	RADIO TIME SIGNALS vo1. 2, 20072008 NP 282, publ by UKHO, London, 2009/2010.
22.	ADMIRALTY LIST OF RADIO SIGNALS, Maritime Safety Information Services, vol. 3, 2007/2008, NP 283, publ by UKHO, London, 209/2010.
23.	ADMIRALTY LIST OF RADIO SIGNALS, METEOROLOGICAL OBSERVATION STATIONS, NP 284, vol.4, 2007/2008 publ by UKHO, London,
	2009/2010.
24.	ADMIRALTY LIST OF RADIO SIGNALS, GMDSS- GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM, vol. 5, 2007/2008, NP 285, publ by
	UK Hydrographic Office(UKHO), London, 2008/2009.
25.	ADMIRALTY LIST OF RADIO SIGNALS, PILOT SERVICES, VESSEL TRAFFIC, SERVICES AND PORT OPERATIONS, vol. 6 (1), (2), (3),
	2008/2009, London.
26.	Graham D. Lees, William G.Williamson, Handbook for Marine Radio Comunication, ed. LLOYD S OF LONDON PRESSLTD., 2004, ISBN 978 1
	84311 368 3.
27.	GMDSS Course for General Operator's Certificate- Instructor's Guide (4 th edition), Poseidon Education, Leknes, Norway, ISBN 82-91839-03-

		4.
	28.	Tor R Kristensen, GMDSS Course for General Operator's Certificate- Student's WorkBook, (6 th edition), Poseidon Education, Leknes, Norway,
		ISBN 89-91839-08-5, 2003.
	29.	Tor R Kristensen, AN INTRODUCTION TO GMDSS General Operator's Certificate- GOC (7th edition - revised GOC edition), Poseidon
		((Kristensen Marine Communications), Leknes, Norway, ISBN 978-82-92035-21-4, 2008.
	30.	INSTRUCTOR'S PACK GMDSS/ GOC (INCLUDING SEARCH AND RESCUE SAR EXERCISES ON CD), Poseidon Education, Leknes, Norway, 2008.
	31.	Codruța Pricop, GMDSS – GOC Tehnici de Instruire, (GMDSS GOC Training Techniques) Editura NAUTICA, Constanța, ISBN 973-7872-01-0, 2005.
	32.	Codruța Pricop, GMDSS – GOC <i>Tehnici de Instruire editia a 2a, (GMDSS GOC Training</i> Techniques 2 th edition) Editura NAUTICA, Constanța, 2009, ISBN 978-973-7872-94-4.
	33.	Dan Popa Tehnici si Echipamente GMDSS, Editura NAUTICA, Constanța, 2009, ISBN 978-973-7872-95-1.
	34.	IMO Search and Rescue Manual (IMOSAR), Consolidated Edition ,1993- include amend. adopt. Incl 1993.
	35.	International Safety Management (Code ISM Code), IMO, 1994, ad. prin Res. A.741 (18)-1993.
	A1	General operator's Certificate for The Global Maritime Distress and Safety System, Course + Compendium Model Course IMO 1 25 Printed by PMS UK Ltd London 2004
	A2	NORCONTROL CAPELLA 5.1 GMDSS SIMULATOR and PC programs, including
Didactic aids		documentation, for the simulation of terrestrial and satellite communication and distress
Diductic ulus		Real consola SEA 3.
	A 2	User menuels for all installed CMDSS equipment (printed or and video, audio files)
		Radio Log-book
	A5	Real terrestrial and satellite communication and distress alerting systems and equipments,

	adapted for training and assessment.		
	(Demonstration equipment (SARTs, portable GMDSS VHFs, EPIRBs, and so on)).		
A6	Real equipment as VHF, VHF-DSC, MF/HF including NBDP and DSC and Inmarsat-C,	1	
	Navtex, AIS, and so an.		
A7	INSTRUCTOR'S PACK GMDSS/ GOC (INCLUDING SEARCH AND RESCUE SAR	1	
	EXERCISES ON CD), Poseidon Education, Leknes, Norway, 2008.		
		_	

	Signature
Didactic rank, title, name and surname Assoc. Prof. CODRUȚA PRICOP, Ph.D.	
Head of Chair Didactic rank, title, name and surname Prof. BORDEA GHEORGHE, Ph. D	

Legend: C-course, S-seminar, L-laboratory, P-project or practical works

GMDSS GOC

LESSON PLANS
Subject area: GMDSS GOC Course -Introd	uction		Lesson num	Duration: (3,5 hours)			
Training Area: The Course							
Main element Specific training outcome in teaching sequence, with memory keys	Teaching method	Textbook	IMO reference	Teaching aids	Instructor guidelines	Lecture notes	Time (minutes)
1. Introduction							1h
1.1 The Course- (2,5 hours)	Lecture	T3.1	R1-Pt-4	A*, A1A7	Al	Compiled by the lecturer	
 1.1.1 States the background and purpose of the GMDSS - definition of sea areas : areas A1, A2₅ A3 and A4 - dates of implementation 	Lecture		R1-Pt-4 R7	A*, A1A7	Al	Compiled by the lecturer	1h
 1.1.2 States the requirements for radio installations in the GMDSS: - details of carriage requirements - details of the communications equipment used in each area - methods of Distress, Urgency and Safety alerting 	Lecture	T3.1	R1-Pt-4 R7	A*, A1A7	A1	Compiled by the lecturer	1h
1.1.3 States the certification requirements in the GMDSS	Lecture		R7	A*, A1A7	A1	Compiled by the lecturer	0.5 h

Subject area: Principle of Maritime communications	lesson numb	per: 2.1		Duration: (15 hours)			
Training Area: The general principles and basic features of the Maritime	Mobile Servio	ce (15,0) hou	rs				
Main element Specific training outcome in teaching sequence, with memory keys	Teachin g method	Textbook	IMO reference	Teaching aids	Instructor guidelines	Lecture notes	Time (hours, minute s)
KNOWLEDGE OF THE BASIC FEATURES OF THE MARITIME MOBILE SERVICE A THE MARITIME MOBILE –SATELLITE SERVICE	ND						
2. Principle of Maritime communications	Lecture		R1-Pt3	A*, A1A7	A1	Compiled by the lecturer	
2.1 The general principles and basic features of the Maritime Mobile Serv (15,0) hours	ice Lecture		CEPT – A1.1	A*, A1A7	A1	Compiled by the lecturer	2 h
 2.1.1 State of types of communication in the Maritime Mobile Service Distress, urgency and safety communications Public correspondence Port operations and ship movement service Intership communications On-board communications 	Lecture	T1-RR1	CEPT – A1.1.1	A*, A1A7	Al	Compiled by the lecturer	2 h
 2.1.2 State the types of station in the Maritime Mobile Service Ship stations Coast stations Pilot stations, port stations etc. Aircraft stations Rescue coordination centre RC 	Lecture	T2.1, T.2.2, T2.4	CEPT – A1.1.2	A*, A1A7	Al	Compiled by the lecturer	1 h
 2.1.3 Elementary knowledge of frequencies and frequency bands The concept of frequency The equivalence between frequency and wavelength The unit of frequency: Hz, kHz, MHz, GHz 	Lecture	T1-RR2, RR4, AP6& AP14	CEPT – A1.1.3	A*, A1A7	A1	Compiled by the lecturer	2 h

- The subdivision of the most significant part of the radio spectrum: MF, HF, VHF, UHF, SHF							
2.1.4 Characteristics of frequencies/radio propagation	Lecture	T1-RR8,	CEPT –	A*,	A1	Compiled	2 h
- Different basic propagation mechanisms: propagation in free space, ground wave,		RR38,	A1.1.4	A1A/		by the	
ionospheric propagation		KKN38,				lecturer	
- Propagation of MF frequencies		$RRIN40 \alpha$					
- Flopagation of WHE and LIHE frequencies		KKUU					
- riopagation of viri and Orr inequencies							
- describes ontinum traffic frequency (OTF)							
and calculation							
- describes how to select the correct frequency							
bands for short-, medium and long-range							
communications by day and night							
- describes purposes and action of automatic							
gain control							
- details frequencies used for satellite							
communications		-					
2.1.5. Elementary knowledge of different types of modulation and classes of	Lecture			A*,	A1	Compiled	1 h
emission				A1A7		by the	
- Classes of emission			CEPT –			lecturer	
- Carrier frequency and assigned frequency			A1.1.6				
- Bandwidth of different emissions							
- Official designations of emissions							
(e.g. F1B,J3E,A3E,AIA etc.)							
- Unofficial designations of emissions (e.g. 1LX,SSB,AM,CW etc.)	Lastana		CEDT	A *	A 1	Commiled	11.
2.1.0 Knowledge of the role of the various modes of communication	Lecture		CEPI =	$A^*,$	AI	Compiled by the	IN
- DSC Padiotalanhany			A1.1.5	A1A/		locturer	
- NBDP						lecturer	
- Facsimile							
- Data							
- Morse telegraphy							

2.1.7 Frequencies allocated to the Maritime Mobile Service	Lecture	CEPT –	A*,	A1	Compiled	4 h
-The usage of MF, HF, VHF, UHF and SHF frequencies in the maritime mobile		A1.1.7	A1A7		by the	
service					lecturer	
- The concept of radio channel. Simplex, semi-duplex and duplex.						
Paired and unpaired frequencies.						
- Frequency plans and channelling systems:						
- HF telephony (Relevant appendix of the Radio Regulations)						
- VHF telephony (Relevant appendix of the Radio Regulations)						
- HF NBDP (Relevant appendices of the Radio Regulations)						
- MF telephony and NBDP for Region 1 (Geneva 85 plan)						
- GMDSS distress and safety frequencies						
- Distress and safety frequencies of the pre-GMDSS system						
- Calling frequencies						
- the correct usage of frequency, frequency						
bands and modes of emission for maritime						
communications as required by the Radio						
Regulations						
- frequencies for Distress, Urgency and Safety communications for GMDS						
purposes as						
required by the Radio Regulations						
- the frequencies for routine call and reply						

Subject area: Principle of Maritime communications

Lesson number: 2.2

Duration: (6 hours)

Training Area: The general principles and basic features of the Maritime Mobile-Satellite Service

Main element Specific training outcome in teaching sequence, with memory keys	Teaching method	IMO reference	Textbook	Teaching Aids	Instructor guidelines	Lecture notes	Time (hours, minutes)
2.2.The general principles and basic features of the Maritime Mobile-Satellite Service (6h)	Lecture	R1/Pt 3.2 CEPT-A2	T3.1, T3.2	A*, A1A7	Al	Compiled by the lecturer	1 h
 2.2.1 Basic knowledge of satellite communications INMARSAT Space segment Modes of communication Telex services Telephone services Data and facsimile communications Store and forward operation Distress and safety communications services INMARSAT-A/B communications services INMARSAT Enhanced Group Call (EGC) system INMARSAT-M communication services Distress, Urgency and Safety communications via satellite 	Lecture	CEPT- A2.2.1		A*, A1A7	A1	Compiled by the lecturer	3 h
 2.2.2. Types of station in the maritime mobile-satellite service Coast Earth Stations (CESs) and their operations and their operations; Network Co-ordination Stations (NCSs) and their operations; Ship Earth Stations (SESs) and their operations 	Lecture	CEPT- A2.2.2		A*, A1A7	A1	Compiled by the lecturer	2h

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Subject area: Principle of Maritime communication	ons	Lesso	n number: 2.3	Duration: (8 hours)			
Training Area: Global Maritime and Distress and	Safety System	(GMDSS)					
Main element Specific training outcome in teaching sequence, with memory keys	Teaching method	IMO reference	Textbook	Teaching Aids	Instructor guidelines	Lecture notes	Time (hours, minutes)
2.3. Global Maritime and Distress and Safety System (GMDSS) (8h)							
 2.3.1 Functional requirements of ship stations: details of equipment specifications A1, A2_s A3&A4 definitions of coverage and sea areas for Digital Selective Calling (DSC) details of carriage requirements describes Maritime Safety Information (MSI) services Watchkeeping procedures as defined in the Radio Regulations and the STCW Code 	Lecture	R1-Pt 1,2, 4,7& 8+ Annex 1 R4, R5		A*, A1A7	A1	Compiled by the lecturer	4 h
 2.3.2 Sources of power: reserve power supplies, capacity and duration as defined in SOLAS Convention reserve/emergency source of energy prohibitions on the connection of non-GMDSS equipment reserve source of energy 	Lecture	R1-Pt 1,2, 4,7& 8+ Annex 1		A*, A1A7	A1	Compiled by the lecturer	1 h
 2.3.3 Means of ensuring availability of ship station equipment equipment duplication maintenance strategies and requirements for the GMDSS as defined in the SOLAS Convention and the Radio Regulations 	Lecture	R1-Pt 1,2, 4,7& 8+ Annex 1		A*, A1A7	Al	Compiled by the lecturer	0.5 h
2.3.4 Primary and secondary means of alerting	Lecture			A*, A1A7	A1	Compiled by the lecturer	0.5 h

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 2.3.5 Ship licences and radio certificates: details shown on the ships radio licence requirements for radio safety certificates 	Lecture	R1-Pt 1,2, 4,7& 8+ Annex 1	A*, A1A7	A1	Compiled by the lecturer	1 h
 2.3.6 Record keeping and log-book requirements for ship stations: details of log-book daily entries details of all other periodic entries to include results of equipment tests etc. as required by the Radio Regulations. 	Lecture	R5	A*, A1A7	A1	Compiled by the lecturer	1 h

Lesson number: 3.1

Duration: (22,5 hours)

Training Area: Purpose and use of Digital Selective Calling (DSC) facilities (22,5 hours)

Main element Specific training outcome in teaching sequence, with memory keys	Teaching method	IMO reference	Textbook	Teaching Aids	Instructor guidelines	Lecture Notes/	Time (hours, minutes)
3. GMDSS Communication Systems	Lecture/ Simulator Based Training (SBT)		T1-RRN39, RRN40, RRN41, RRN62 DSC/III DSC/IV DSC/V	A*, A1A7	A1	Compiled by the lecturer/	
3.1 Purpose and use of Digital Selective Calling (DSC) facilities (22.5 hours)		R1-Pt 3,		A*, A1A7	A1	Compiled by the lecturer	5 h/17.5 h
Digital Selective Calling (DSC)	Lecture/ Simulator Based Training (SBT) (SBT)	CEPT-B2		A*, A1A7	Al	Compiled by the lecturer	1h/2h
 3.1.1. Basic function of DCS DSC message types DSC call format frequency selection in call format call acknowledgment call relay process 	Lecture/ Simulator Based Training (SBT)			A*, A1A7	A1	Compiled by the lecturer	0.5h/2h
3.1.2. Call format specifierdistress callall ships callcall to individual station	Lecture/ Simulator Based Training	CEPT- B2.2.1		A*, A1A7	Al	Compiled by the lecturer	1h/2h

- geographic area call - group call	(SBT)						
- automatic/semi-automatic service							
3.1.3. The Maritime Mobile Service Identity (MMSI)	Lecture/	CEPT-	T2.1, T2.3	A*,	A1	Compiled by	0.5h/2h
and selection of the MMSI for calling:	Simulator	B2.2.2		A1A7		the lecturer	
Call address selection with the MMSI number	Based						
- the nationality identification	Training						
- group calling numbers	(SBT)						
- coast station numbers							
- ship station numbers							
3.1.4. Call categorization	Lecture/	CEPT-		A*,	Al	Compiled by	-/2h
- distress	Simulator	B2.2.3		A1A7		the lecturer	
- urgency	Based						
- safety	Training						
- other communications	(SBT)						
3.1.5. Call telecommand and traffic information:	Lecture/	CEPT-		A*,	Al	Compiled by	1h/2h
- Distress alert;	Simulator	B2.2.4		A1A7		the lecturer	
- undesignated Distress messages;	Based						
- Distress co-ordinates:	Training						
- time and validity of Distress co-ordinates:	(SBT)						
- other calls and messages:							
- outer cans and messages,							
- working frequencies and channel selection	I a atrana /			A *	A 1	Compiled her	/0 5 h
3.1.6. Test Calls	Lecture/			A*,	AI	Compiled by	-/0.5 h
	Simulator			A1A/		the lecturer	
	Based						
	(CDT)						
	(SB1)						

3.1.7. DSC facilities and usage:	Lecture/	CEPT-	A*,	Al	Compiled by	1h/5 h
- channel 70 instant alert selector	Simulator	B2.2.5	A1A7		the lecturer	
- the 2187.5 kHz instant alert selector	Based					
- manual selection of modes for further communication	Training					
- methods of DSC data entry and retrieval	(SBT)					
updating vessel position						
entering preset message						
reviewing received messages						

Lesson number: 3.2

Duration: (6,0 hours)

Training Area: Knowledge of the general principles of NBDP and Radio Telex systems. Ability to use maritime NBDP and Radio Telex equipment in practice. (6.0 hours)

Main element Specific training outcome in teaching sequence, with memory keys	Teaching method	IMO reference	Textbook	Teaching Aids	Instructor guidelines	Lecture notes	Time (hours, minutes)
3. GMDSS Communication Systems	Lecture/ Simulator Based Training (SBT)		T1-RRN39, RRN40, RRN41, RRN62 DSC/III DSC/IV DSC/V	A*, A1A7	A1	Compiled by the lecturer	4h/2h
3.2 Knowledge of the general principles of NBDP	Lecture/	R1-Pt 5	T1-RRN39,	A*,	A1	Compiled by	1 h/-
and Radio Telex systems. Ability to use maritime	Simulator	CEPT-B3	RRN40,	A1A7		the lecturer	
NBDP and Radio Telex equipment in practice. (6.0	Based		KR64,				
hours)	(SBT)		DP1/1				
3.2.1 NBDP systems	Lecture/	CEPT-	T2.1, T2.4	A*,	A1	Compiled by	2 h/1 h
- Automatic systems	Simulator	B3.3.1		A1A7		the lecturer	
- Semi-automatic systems	Based						
- Manual systems	Training						
- ARQ mode	(SBT)						
- FEC mode							
- ISS/IRS arrangement							
- Master and slave							
- Radio telex numbering system							
- Answerback							
3.22 Radio Telex equipment	Lecture/	CEPT-		A*,	A1	Compiled by	1 h/1h
- Controls and indicators	Simulator	B3.3.2		A1A7		the lecturer	
- Keyboard operation	Based						
	Training						
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Lesson number: 3.3

Duration: (7 hours)

Training Area: Knowledge of the usage of INMARSAT systems. Ability to use INMARSAT equipment or simulator in practice. (7.0 hours)

Main element Specific training outcome in teaching sequence, with memory keys	Teaching method	IMO reference	Textbook	Teaching Aids	Instructor guidelines	Lecture notes	Time (hours, minutes)
3. GMDSS Communication Systems	Lecture/ Simulator Based Training (SBT)		T1-RRN39, RRN40, RRN41, RRN62 DSC/III DSC/IV DSC/V	A*, A1A7	A1	Compiled by the lecturer	
3.3. Knowledge of the usage of INMARSAT systems. Ability to use INMARSAT equipment or simulator in practice. (7.0 hours)	Lecture/ Simulator Based Training (SBT)	R1-Pt 3.2 CEPT-B4		A*, A1A7	A1	Compiled by the lecturer	3 h/4h
 3.3.1 Inmarsat satellite systems and network: the basic features of the Inmarsat network, including: extent of global coverage ocean regions network co-ordination stations (NCS) overview of Inmarsat(-A**-B/-C/-E and -M systems the use of different Inmarsat systems within the GMDSS 	Lecture/ Simulator Based Training (SBT)		T3.1, T3.2	A*, A1A7	A1	Compiled by the lecturer	1h/ -
3.32 Operation of INMARSAT-A/B Ship Earth StationSatellite acquisitionTelex services	Lecture/ Simulator Based	CEPT- B4.4.1	T3.1, T3.2	A*, A1A7	A1	Compiled by the lecturer	0.5h/ 0.5 h

- Telephone services - Data and facsimile communications	Training (SBT)					
 3.33 Description and demonstration of an !nmarsat-A ships earth station components of an Inmarsat-A ship earth station method of acquiring satellite both manually and automatically usage of an Inmarsat-A ship earth station procedure for sending a Distress message or call using Inmarsat-A use of 2-digit code service via Inmarsat-A basic procedure for sending and receiving Inmarsat-A basic procedure for making a telephone call using Inmarsat-A 	Lecture/ Simulator Based Training (SBT)	T3.1, T3.2	A*, A1A7	A1	Compiled by the lecturer	0.5h/ 0.5 h
 3.3.4 Description and demonstration of an Inmarsat-B earth station. components of an Inmarsat-B ship earth station the basic difference between Inmarsat-A and Inmarsat-IB ship earth station method of acquiring satellite both manually and automatically usage of an Inmarsat-B ship earth station procedure for sending a Distress alert/message or call using Inmarsat-B use of 2-dsgit code service via Inmarsat-B basic procedure for sending and receiving Inmarsat-B telex messages (may be omitted) basic procedure for making a telephone call using Inmarsat-B 	Lecture/ Simulator Based Training (SBT)	T3.1, T3.2	A*, A1A7	A1	Compiled by the lecturer	0.5h/ 1h

3.3.5 Description and demonstration of an Inmarsat-C ship earth station - Components of an INMARSAT-C terminal - Entering/updating position - Usage of an INMARSAT-C Ship Earth Station	Lecture/ Simulator Based Training (SBT)	CEPT- B4.4.3	T3.1, T3.2, T3.4	A*, A1A7	A1	Compiled by the lecturer	0.5h/ 1 h
 Sending and receiving text messages; Distress and safety services Sending a distress alert Sending a distress priority message The INMARSAT-C safety services 2-digit code safety services; 							
 3.3.6 Inmarsat (Enhanced Group Calling) EGC receiver: components of an EGC receiver (usually incorporated in an Inmarsat-C) entering and updating ship's position both manually and automatically usage of an Inmarsat EGC receiver Ship Earth St St. pre-programming an SES for EGC message reception selecting operating mode for EGC reception 	Lecture/ Simulator Based Training (SBT)	CEPT- B4.4.2	T3.1, T3.2, T3.4	A*, A1A7	A1	Compiled by the lecturer	-/ 0.5 h
 3.3.7 Inmarsat-M ship earth station : components of an Inmarsat-M ship earth station the basic difference between inmarsat(-A)/-B and Inmarsat-M ship earth station the limitations regarding Inmarsat-M and the GMDSS method of acquiring satellite both manually and automatically usage of an Inmarsat-M ship earth station 	Lecture/ Simulator Based Training (SBT)		T3.1	A*, A1A7	A1	Compiled by the lecturer	-/ 0.5 h

- procedure for sending a Distress alert/call				
using Inmarsat-M ship earth station				
- use of 2-digit code service via Inmarsat-M				
- basic procedure for making a telephone call				
using Inmarsat-M				

Lesson number: 3.4

Duration: (18 hours)

Training Area: Knowledge of and ability to use in practice the basic equipment of a terrestrial ship station (18 h)

Main element Specific training outcome in teaching sequence, with memory keys	Teaching method	IMO reference	Textbook	Teaching Aids	Instructor guidelines	Lecture notes	Time (hours, minutes)
3. GMDSS Communication Systems	Lecture/ Simulator Based Training (SBT)		T1-RRN39, RRN40, RRN41, RRN62 DSC/III DSC/IV DSC/V	A*, A1A7	A1	Compiled by the lecturer	
3.4.Knowledge of and ability to use in practice the basic equipment of a terrestrial ship station (18 h)	Lecture/ Simulator Based Training (SBT)	CEPT-B1		A*, A1A7	A1	Compiled by the lecturer	4h/14h
 3.4.1.The purpose of watchkeeping receivers The controls and usage of VHF DSC watch receiver The controls and usage of MF DSC watch receiver and MF/HF DSC watch receiver 	Lecture/ Simulator Based Training (SBT)	CEPT- B1.1.1		A*, A1A7	A1	Compiled by the lecturer	0.5h/2h
 3.4.2.The usage and functions of the VHF radio installation Channels Controls Usage DSC facilities 	Lecture/ Simulator Based Training (SBT)	CEPT- B1.1.2		A*, A1A7	A1	Compiled by the lecturer	0.5h/4h

 3.4.3. The usage and functions of the MF/HF radio installation: use and selection of frequencies typical controls and usage connection of the power selecting the RX (receive) frequency selecting TX (transmit) frequency selecting ITU channel number tuning the transmitter selecting the class of emission using volume control and squelch using of clarifier or RX (receiver) fine Tuning controlling RF gain 	Lecture/ Simulator Based Training (SBT)	CEPT- B1.1.3		A*, A1A7	A1	Compiled by the lecturer	0.5h/4h
 3.4.4. Survival craft radio equipment Portable two-way VHF radiotelephone apparatus Portable two-way VHF on scene communications SART EPIRBs 	Lecture/ Simulator Based Training (SBT)	CEPT- B1.1.6		A*, A1A7	A1	Compiled by the lecturer	1h/2h
 3.4.5. Basic antennas systems - Isolators - VHF whip antennas - MF/HF whip antennas - MF/HF wire antennas - Satellite antennas 	Lecture/ Simulator Based Training (SBT)	CEPT- B1.1.4	Т3.2	A*, A1A7	A1	Compiled by the lecturer	1h/1h
 3.4.6. Batteries storage systems Different kinds of batteries and their characteristics; UPS systems Charging of batteries Maintenance of batteries UPS systems 	Lecture/ Simulator Based Training (SBT)	CEPT- B1.1.5		A*, A1A7	A1	Compiled by the lecturer	0.5h/ 1 h

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Subject area:	GMDSS Communication Systems
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Lesson number: 3.5

Duration: (3 hours)

Training Area: Fault location and rectification on GMDSS marine electronic equipment (3 hours)

Main element Specific training outcome in teaching sequence, with memory keys	Teaching method	IMO reference	Textbook	Teaching Aids	Instructor guidelines	Lecture notes	Time (hours, minutes)
3. GMDSS Communication Systems	Lecture/ Simulator Based Training (SBT)		T1-RRN39, RRN40, RRN41, RRN62 DSC/III DSC/IV DSC/V	A*, A1A7	A1	Compiled by the lecturer	
3.5 Fault location and rectification on GMDSS marine electronic equipment (3 hours)	Lecture/ Simulator Based Training (SBT)	CEPT-B5		A*, A1A7	A1	Compiled by the lecturer	-/3h
 3.5.1 Proficiency in elementary fault location by means of: use of manufacturer's documentation to locate simple faults basic knowledge of location of major components use of built-in test measuring instruments use of software in accordance w/the equipm, manuals use of test equipment, meters, etc. elementary fault repair such as replacement of user-accessible fuses and indicator lamps and the like 	Lecture/ Simulator Based Training (SBT)	CEPT-B5.1		A*, A1A7	A1	Compiled by the lecturer	-/3h

Subject area: Other GMDSS equipment

Lesson number: 4.1

Duration: (2,5 hours)

Training Area: Emergency Positioning-Indicating RadioBeacon (EPIRBs) (2,5 hours)

Main element Specific training outcome in teaching sequence, with memory keys	Teaching method	IMO reference	Textbook	Teaching Aids	Instructor guidelines	Lecture notes	Time (hours, minutes)
4. Other GMDSS equipment	Lecture/ Simulator Based Training (SBT)			A*, A1A7	A1	Compiled by the lecturer	
4.1. Emergency Positioning-Indicating RadioBeacon (EPIRBs) (2,5 hours)	Lecture/ Simulator Based Training (SBT)	R1-Pt 3.2, 3.3 CEPT-C4		A*, A1A7	A1	Compiled by the lecturer	2h/0.5h
 4.1.1. Description of the COSPAS-SARSAT satellite system and EPIRBs: the basic operation of the CQSPAS-SARSAT satellite system and signal routing/path basic characteristics of operation on 406MHz EPIRB the registration and coding of a 406 MHz EPIRB basic characteristics of operation on 1.6 GHz EPIRB basic characteristics of operation on 121,5MHz EPIRB including homing function the information content of a Distress alert; manual usage/operation the float-free function the correct use of the lanyard routine maintenance testing requirements and test operation 	Lecture/ Simulator Based Training (SBT)	CEPT- C4.4.1		A*, A1A7	A1	Compiled by the lecturer	1.5 h/0.5

 checking battery expiry date cleaning/checking float-free mechanism expiry 							
date							
4.1.3. VHF-DSC-EPIRB	Lecture/	CEPT-		A*,	Al	Compiled by	15 min
- Basic characteristics of operation on CH70	Simulator	C4.4.2		A1A7		the lecturer	
	Based						
	Training						
	(SBT)						
4.1.4. Precautions taken to avoid false Distress alerts	Lecture/	R6	T3.1	A*,	Al	Compiled by	
- safe handling procedures	Simulator			A1A7		the lecturer	
- stopping an unintended false Distress transmission	Based						
- transportation precautions	Training						
	(SBT)						
4.1.5. Additional EPIRB features:	Lecture/			A*,	A1	Compiled by	15 min
the 121,5 MHz SAR and homing	Simulator			A1A7		the lecturer	
function	Based						
the strobe light function	Training						
	(SBT)						

Subject area: Other GMDSS equipment

Lesson number: 4.2

Duration: (1,5 hours)

Main element Specific training outcome in teaching sequence, with memory keys	Teaching method	IMO reference	Textbook	Teaching Aids	Instructor guidelines	Lecture notes	Time (hours, minutes)
4. Other GMDSS equipment	Lecture/ Simulator			A*, A1A7	A1	Compiled by the lecturer	
	Based Training (SBT)						
4.2 Search and Rescue Radar Transponder (SART) (1,5 hour)	Lecture/ Simulator Based Training (SBT)	CEPT- C5.5.1		A*, A1A7	A1	Compiled by the lecturer	1h/0.5h
 4.2.1. Operation and use of SARTs the main technical characteristics demonstration of operation, height and range considerations demonstration of the effect of a radar demonstration of the radar screen indication demonstration of SART testing procedures routine maintenance procedures operation checking battery expiry date 	Lecture/ Simulator Based Training (SBT)	R1-Pt 3.5 CEPT- C5.5.1		A*, A1A7	A1	Compiled by the lecturer	1h/0.5h

Lesson number: 4.3

Duration: (4,0 hours)

Training Area: Reception of Maritime Safety Information (4.0 hours)

Main element Specific training outcome in teaching sequence, with memory keys	Teaching method	IMO reference	Textbook	Teaching Aids	Instructor guidelines	Lecture notes	Time (minutes)
4. Other GMDSS equipment	Lecture			A*,	A1	Compiled by	
	_			AL.A/		the lecturer	
4.3 Reception of Maritime Safety Information	Lecture	CEPT-	T1-DPT/II	A*,	Al	Compiled by	2h/2h
(4.0 hours)		C6.6.3		A1A7		the lecturer	
4.3.1 Purpose and use of MSI services:	Lecture	R1-Pt		A*,	Al	Compiled by	0.5h/0.5h
- message types constituting MSI		3.7+annex		A1A7		the lecturer	
- availability of MSI services		4.2					
- the use of published data on MSI services							
4.3.2. Services available and methods of transmission:	Lecture			A*,	A1	Compiled by	0.5h/0.5h
- MSI by satellite				A1A7		the lecturer	
- MSI by MF and HF							
- MSI by HF telex							
4.3.3 Operation and use of the NAVTEX system:	Lecture	CEPT-C3		A*,	A1	Compiled by	0.5h/0.5h
- Purpose of NAVTEX				A1A7		the lecturer	
- operation of the NAVTEX receiver		CEPT-C3.1					
- NAVTEX frequencies							
- coverage areas of transmissions							
- reception range of transmitters							
- message format (transmitter ID, message type,							
message number)							
- NAVTEX receiver							
selection of transmitters							
 selection of message types 		CEPT-C3.2					
messages types which cannot be							
rejected							
use of subsidiary controls and changing paper							

- use of receiver controls							
4.3.4.Operation and use of the International	Lecture	CEPT-	T3.4	A*,	A1	Compiled by	0.5h/0.5h
SafetyNET Operation and use of the International		C2.2.3		A1A7		the lecturer	
SafetyNET system/Inmarsat EGC:							
- purpose of the EGC system							
- all-ships message and Inmarsat system messages							
- classes of Inmarsat-C SES and their EGC reception							
- describtion of EGC facilities							
- program EGC receiver/Inmarsat-C equipment for							
reception of EGC/SafetyNET messages							
- Updates ship's position both manually and							
automatically							
- selection of mode for EGC reception							

Subject area: Distress alerting

Lesson number: 5.1

Duration: (8,0 hours)

Training Area: Search and Rescue (SAR) operation (4.0 hours)

Main element Specific training outcome in teaching sequence, with memory keys	Teaching method	IMO reference	Textbook	Teaching Aids	Instructor guidelines	Lecture notes	Time (hours, minutes)
5. Distress alerting	Lecture/ Simulator Based Training (SBT)	R4		A*, A1A7	A1	Compiled by the lecturer	
5.1 Search and Rescue (SAR) operation (4.0 hours)	Lecture/ Simulator Based Training (SBT)	CEPT-C8		A*, A1A7	A1	Compiled by the lecturer	3h/1h
 5.1.1 The role of RCCs (the Rescue Co-ordination Centre): Maritime Rescue Organisations knowledge of SAR systems worldwide knowledge of SAR systems interconnection 	Lecture/ Simulator Based Training (SBT)	R2 R1-Pt 2.2& 3.2		A*, A1A7	A1	Compiled by the lecturer	2 h/0.5 h
5.1.2. The role of SAR: -Merchant Ship Search and Rescue Manual (MERSAR)	Lecture/ Simulator Based Training (SBT)	R2 R1-Pt 2.2& 3.2		A*, A1A7	Al	Compiled by the lecturer	0.5h/15 min
5.1.3. The role and method of use of ship reporting systems:AMVER, JASREP, AtJSREP, etc	Lecture/ Simulator Based Training			A*, A1A7	A1	Compiled by the lecturer	0.5h/15 min

	(SBT)									
Subject area: Distress alertingLesson number: 5.2Duration: (11,0 hours)Training Area: Distress, urgency and safety communication procedures in the GMDSS (11.0 h)										
Main element Specific training outcome in teaching sequence, with memory keys	Teaching method	IMO reference	Textbook	Teaching Aids	Instructor guidelines	Lecture notes	Time (hours, minutes)			
5. Distress alerting	Lecture/ Simulator Based Training (SBT)	R4		A*, A1A7	A1	Compiled by the lecturer				
5.2 Distress, urgency and safety communication procedures in the GMDSS (11.0 h)	Lecture/ Simulator Based Training (SBT)	R2,R7 CEPT-C6	T1-Ch.IX & Ch. NIX	A*, A1A7	A1	Compiled by the lecturer	3h/8 h			
 5.2.1 Distress communications DSC distress alert The definition of a distress alert Transmission of a distress alert Transmission of a shore-to-ship distress alert relay Transmission of a ship-to-shore distress alert relay Transmission of a distress alert by a station not itself in distress Receipt and acknowledgement of DSC distress alert Acknowledgement procedure by radiotelephony Acknowledgement procedure by NBDP Receipt and acknowledgement by a coast station Receipt and acknowledgement by a ship station Handling of distress alerts Preparations for handling of distress traffic Distress traffic terminology 	Lecture/ Simulator Based Training (SBT)	CEPT- C6.6.1		A*, A1A7	A1	Compiled by the lecturer	1.5h/3h			

- Testing DSC distress and safety calls						
- Canceling false distress alerts						
- On-scene communications						
- SAR operation	.	CEDT	4.4		a 111	0.51.(01
5.2.2. Urgency and safety communications	Lecture	CEPT-	A*,	Al	Compiled by	0.5h/2h
- The meaning of urgency and safety communications		C6.6.2	A1A7		the lecturer	
- Procedures for DSC urgency and safety calls						
- Urgency communications						
- Radio medical services						
- Medical transports						
- Safety communications						
523 Description of redicted on home proceedures for	Lecture	CEPT-C7	A*,	A1	Compiled by	0.5h/1h
5.2.5. Description of radiotelephone procedures for			A1A7		the lecturer	
SOLAS ships which only use radiotelephony:						
the redictelephone 2182 kHz alarm signal						
- the factotetephone 2182 KHZ atarin Signal						
- the Distress signal						
- the Distress tell						
- the Distress message						
- acknowledgement of Distress messages						
- Orgency signal						
- request for medical advice						
- Safety signal	Lastana	CEDT	A *	A 1	Commiled has	0.5h/2h
5.2.4. Reception of Maritime Safety Information	Lecture	CEPT-	A^* ,	AI	Compiled by	0.5n/2 n
(MSI)		C0.0.0	A1A/		the lecturer	
- reception by NAVIEX						
- reception by inmarsat EGC						
- reception by HF NBDP						
- the navigational warning signal of the old Distress						
and Safety System						
- the navigational warning signal transmitted by radio						
telephony						

Subject area: Distress alerting

Lesson number: 5.3

Duration: (5,0 hours)

Training Area:	GMDSS satellite Distress,	Urgency and Safety	communication procedures	(5,0 hours)
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Main element Specific training outcome in teaching sequence, with memory keys	Teaching method	IMO reference	Textbook	Teaching Aids	Instructor guidelines	Lecture notes	Time (hours, minutes)
5. Distress alerting	Lecture/ Simulator Based Training (SBT)	R4		A*, A1A7	A1	Compiled by the lecturer	
5.3. GMDSS satellite Distress, Urgency and Safety communication procedures (5,0 hours)	Lecture/ Simulator Based Training (SBT)	R2,R7 CEPT-C6	T1-Ch.IX & Ch. NIX	A*, A1A7	A1	Compiled by the lecturer	2h/3h
 5.3.1 The Inmarsat (-A)/-B Ship Earth Station alerting functions use of the Distress facility Distress and Safety procedures methods of initiating alerts satellite acquisition (telex) and telephony distress calls (telex) and telephony Urgency and Safety calls procedures for preparation of calls details of Rescue Co-ordination Centres (RCCs) associated with Coast Earth Stations (CESs) 	Lecture/ Simulator Based Training (SBT)	CEPT- C6.6.1		A*, A1A7	A1	Compiled by the lecturer	1h/1.5h

 5.3.2. Inmarsat C Ship Earth Station alerting functions: Distress and Safety procedures/services satellite acquisition methods of initiating alerts sending a Distress alert sending a Distress priority message Inmarsat-C Safety services 2-digit special access codes and thei purpose 	Lecture/ Simulator Based Training (SBT)	CEPT- C6.6.2		A*, A1A7	A1	Compiled by the lecturer	1h/1.5h
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Subject area: Distress alerting

Lesson number: 5.4

Duration: (3,0 hours)

Main element Specific training outcome in teaching sequence, with memory keys	Teaching method	IMO reference	Textbook	Teaching Aids	Instructor guidelines	Lecture notes	Time (hours, minutes)
5. Distress alerting	Lecture/ Simulator Based Training (SBT)	R4		A*, A1A7	A1	Compiled by the lecturer	
5.4 Protection of Distress frequencies and avoidance of false Distress alerts (3.0 hours)	Lecture/ Simulator Based Training (SBT)	CEPT- C6.6.4		A*, A1A7	A1	Compiled by the lecturer	2h/1h
5.4.1.Methods of preventing false Distress alerts	Lecture/ Simulator Based Training (SBT)	R6		A*, A1A7	A1	Compiled by the lecturer	0.5h/10 min
5.4.2.Procedures to minimize the effect of a false Distress alert	Lecture/ Simulator Based Training (SBT)	R6		A*, A1A7	Al	Compiled by the lecturer	15min/10 min
5.4.3.Testing procedures for GMDSS equipment/on Distress frequencies	Lecture/ Simulator Based Training (SBT)			A*, A1A7	A1	Compiled by the lecturer	30 min/20 min

Training Area: Protection of Distress frequencies and avoidance of false Distress alerts (3.0 hours)

5.4.4.Prohibitions of transmissions during Distress traffic	Lecture/ Simulator Based Training (SBT)		A*, A1A7	A1	Compiled by the lecturer	15 min/10 min
5.4.5.Procedures to avoid harmful interference	Lecture/ Simulator Based Training (SBT)		A*, A1A7	A1	Compiled by the lecturer	15 min/10 min
5.4.6.Regulations regarding prevention of unauthorized transmissions	Lecture/ Simulator Based Training (SBT)		A*, A1A7	Al	Compiled by the lecturer	15 min/-

Subject area:

MISCELLANEOUS SKILLS AND OPERATIONAL PROCEDURES FOR GENERALCOMMUNICATIONS (11 hours) Lesson number: 6.1 Duration: (11,0 hours)

Training Area:	Ability to use English language, both	written and spoken, for the satisfactor	v exchange of communications	relevant to the safety of life at sea
		······································		· · · · · · · · · · · · · · · · · · ·

Main element Specific training outcome in teaching sequence, with memory keys	Teaching method	IMO reference	Textbook	Teaching Aids	Instructor guidelines	Lecture notes	Time (hours, minutes)
6. MISCELLANEOUS SKILLS AND	Lecture/	CEPT-D		A*,	A1	Compiled by	
OPERATIONAL PROCEDURES FOR GENERAL	Simulator			A1A7		the lecturer	
COMMUNICATIONS (11 hours)	Based						
	Training (SBT)						
6.1. Ability to use English language, both written	Lecture/	R5	T1-AP10,	A*,	A1	Compiled by	
and spoken, for the satisfactory exchange of	Simulator	CEPT-D1	AP14 & AP24	A1A7		the lecturer	
communications relevant to the safety of life at sea	Based						
	Training						
	(SBT)						
6.1.1. Explanation of the use of obligatory documents	Lecture/	R3		A*,	A1	Compiled by	
and publications including the use of the	Simulator			A1A7		the lecturer	
International.Code of Signals and the IMO Standard	Based						
Marine Communication Phrases	Training						
	(SBT)						
6.1.2. Recognition of standard abbreviations and	Lecture/			A*,	A1	Compiled by	
commonly used service codes	Simulator			A1A7		the lecturer	
	Based						
	Training						
	(SBT)						

6.1.3. Description of the use of International Phonetic	Lecture/		A*,	A1	Compiled by	
Alphabet	Simulator		A1A7		the lecturer	
	Based					
	Training					
	(SBT)					

Subject area:

MISCELLANEOUS SKILLS AND OPERATIONAL PROCEDURES FOR GENERALCOMMUNICATIONS (11 hours) Lesson number: 6.2 Duration: (11,0 hours)

Training Area: Obligatory procedures and practices

Main element Specific training outcome in teaching sequence, with memory keys	Teaching method	IMO reference	Textbook	Teaching Aids	Instructor guidelines	Lecture notes	Time (hours, minutes)
6. MISCELLANEOUS SKILLS AND OPERATIONAL PROCEDURES FOR GENERAL COMMUNICATIONS (11 hours)	Lecture/ Simulator Based Training (SBT)	CEPT-D		A*, A1A7	A1	Compiled by the lecturer	
6.2 Obligatory procedures and practices	Lecture/ Simulator Based Training (SBT)	CEPT-D2		A*, A1A7	A1	Compiled by the lecturer	
6. 2.1 Effective use of obligatory documents and publications- detailed methods of updating information	Lecture/ Simulator Based Training (SBT)		T1-AP11. T2 to T2.4	A*, A1A7	A1	Compiled by the lecturer	
6. 2.2. Procedures Radio record keeping: -details log-book requirements and mandatory entries	Lecture/ Simulator Based Training (SBT	R5	T1	A*, A1A7	A1	Compiled by the lecturer	
)						
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6.2.3 Detailed knowledge of the regulations and	Lecture/		A*,	A1	Compiled by		
agreements governing the Maritime Mobile	Simulator		A1A7		the lecturer		
Service and the Maritime Mobile-Satellite Service	Based						
	Training						
	(SBT)						

Subject area:

MISCELLANEOUS SKILLS AND OPERATIONAL PROCEDURES FOR GENERALCOMMUNICATIONS (11 hours) Lesson number: 6.3 Duration: (11,0 hours)

Training Area: Practical and theoretical knowledge of general communication procedures

Main element Specific training outcome in teaching sequence, with memory keys	Teaching method	IMO reference	Textbook	Teaching Aids	Instructor guidelines	Lecture notes	Time (minutes)
6. MISCELLANEOUS SKILLS AND OPERATIONAL PROCEDURES FOR GENERAL COMMUNICATIONS (11 hours)	Lecture	CEPT-D		A*, A1A7	A1	Compiled by the lecturer	
6.3.Practical and theoretical knowledge of general communication procedures (11 hours)	Lecture	CEPT-D3		A*, A1A7	A1	Compiled by the lecturer	4h/7h
 6.3.1 Selection of appropriate communication methods in different situations: -use of obligatory documentation to determine frequencies -use of propagation tables 	Lecture		T1 T2.1, T2.2	A*, A1A7	A1	Compiled by the lecturer	1 h/2 h
6. 3.2 The use of obligatory documentation to receive traffic lists and meteorological information	Lecture	CEPT- D3.3.2	T2.1, T2.2	A*, A1A7	A1	Compiled by the lecturer	0.5h/1h
 6.3.3 Radio telephone calls: Procedures for radiotelephone calls: method of calling coast station by a radio telephony requesting/ordering for a manually switched link call terminating/ending a call special facilities of calls available 	Lecture	CEPT- D3.3.3	T1	A*, A1A7	Al	Compiled by the lecturer	1h/2 h

- methods of calling a coast station by DSC							
- selecting an automatic radio telephone call							
6.3.4 Details of radio telegram	Lecture		T1-D90 &	A*,	A1	Compiled by	0.5h/1 h
- the preamble			F110	A1A7		the lecturer	
- service instructions							
- accounting authority identification code (AAIC)							
- the address							
- the text							
- the signature							
- types of addressing available							
- full address							
- registered address							
- telephonic address							
- telex address (may be omitted)							
- counting words							
- transmission of telegram by radiotelegrafy							
6.3.5 Methods of traffic charges:	Lecture	CEPT-	T1-D90 &	A*,	A1	Compiled by	1h/1h
- the international charging and accounting		D3.3.4	F110	A1A7		the lecturer	
system			T3.1				
- Inmarsat communication charging systems							
- the AAIC code and use of documentation to							
determine/verify it							
- the meaning of landline (LL), coast station							
(CC) and ship station (SC) charge							
- currencies used in charging and conversion							
- gold francs and special drawing rights, etc.							
- practical traffic routines							

Subject area: GMDSS GOC Course	Lesson number: 7		ber: 7	Duration: (8 hours)					
7 Training Area: Assessment and discussion (8h)									
Main element Specific training outcome in teaching sequence, with memory keys	Teaching method	Textbook	IMO reference	Teaching aids	Instructor guidelines	Lecture notes	Time (minutes)		
8 Assessment and discussion (8h)							8 h		

TEACHING SYLLABUS

THE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM -General Operator's Certificate (GMDSS-GOC)

GMDSS GOC INSTRUCTOR HANDBOOK.112

1. INTRODUCTION

1.1 THE COURSE

1.1.1 Background and purpose of the GMDSS

- definition of sea areas : areas A1, A2, A3 and A4

- dates of implementation

1.1.2 Requirements for radio installations in the GMDSS:

- details of carriage requirements

- details of the communications equipment used in each area

- methods of Distress, Urgency and Safety alerting

1.1.3 States the certification requirements in the GMDSS

KNOWLEDGE OF THE BASIC FEATURES OF THE MARITIME MOBILE SERVICE AND OF THE MARITIME MOBILE-SATELLITE SERVICE

2. GENERAL PRINCIPLES OF MARITIME COMMUNICATIONS

2.1 The general principles and basic features of the Maritime Mobile Service

2.1.1 Types of communication in the Maritime Mobile Service

- Distress, urgency and safety communications
- Public correspondence
- Port operations and ship movement service
- Intership communications
- On-board communications

2.1.2 State the types of station in the Maritime Mobile Service

- Ship stations
- Coast stations
- Pilot stations, port stations etc.
- Aircraft stations
- Rescue coordination centre RC

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2.1.3 Elementary knowledge of frequencies and frequency bands

- The concept of frequency

- The equivalence between frequency and wavelength

- The unit of frequency: Hz, kHz, MHz, GHz

- The subdivision of the most significant part of the radio spectrum: MF, HF, VHF, UHF, SHF

2.1.4 Characteristics of frequencies/radio propagation

- Different basic propagation mechanisms: propagation in free space, ground wave, ionospheric propagation

- Propagation of MF frequencies
- Propagation of different HF frequency bands
- Propagation of VHF and UHF frequencies
- describes maximum usable frequency (MUF)
- describes optimum traffic frequency (OTF) and calculation
- describes how to select the correct frequency bands for short-, medium and

long-range

communications by day and night

- describes purposes and action of automatic gain control
- details frequencies used for satellite communications

2.1.5. Elementary knowledge of different types of modulation and classes of emission

- Classes of emission
- Carrier frequency and assigned frequency
- Bandwidth of different emissions
- Official designations of emissions
- (e.g. F1B,J3E,A3E,AIA etc.)
- Unofficial designations of emissions (e.g. TLX, SSB, AM, CW etc.)

2.1.6 Knowledge of the role of the various modes of communication

- DSC
- Radiotelephony
- NBDP
- Facsimile
- Data
- Morse telegraphy

2.1.7 Frequencies allocated to the Maritime Mobile Service

- -The usage of MF, HF, VHF, UHF and SHF frequencies in the maritime mobile service
- The concept of radio channel. Simplex, semi-duplex and duplex. Paired and unpaired frequencies.
- Frequency plans and channelling systems:
 - HF telephony (Relevant appendix of the Radio Regulations)

- VHF telephony (Relevant appendix of the Radio Regulations)
- HF NBDP (Relevant appendices of the Radio Regulations)
- MF telephony and NBDP for Region 1 (Geneva 85 plan)
- GMDSS distress and safety frequencies
- Distress and safety frequencies of the pre-GMDSS system
- Calling frequencies
- the correct usage of frequency, frequency bands and modes of emission for maritime
 - communications as required by the Radio Regulations
- frequencies for Distress, Urgency and Safety communications for GMDS purposes as

required by the Radio Regulations

- the frequencies for routine call and reply

KNOWLEDGE OF THE BASIC FEATURES OF THE MARITIME MOBILE SERVICE AND OF THE MARITIME MOBILE-SATELLITE SERVICE

2. GENERAL PRINCIPLES OF MARITIME COMMUNICATIONS

2.2. THE GENERAL PRINCIPLES AND BASIC FEATURES OF THE MARITIME MOBILE-SATELLITE SERVICE

2.2.1 Basic knowledge of satellite communications

- INMARSAT Space segment
- Modes of communication
 - Telex services
 - Telephone services
 - Data and facsimile communications
 - Store and forward operation
- Distress and safety communications
- INMARSAT-A/B communications services
- INMARSAT-C communications services
- INMARSAT Enhanced Group Call (EGC) system
- INMARSAT-M communication services
- Distress, Urgency and Safety communications via satellite

2.2.2. Types of station in the maritime mobile-satellite service

- Coast Earth Stations (CESs) and their operations and their operations;
- Network Co-ordination Stations (NCSs) and their operations;
- Ship Earth Stations (SESs) and their operations

KNOWLEDGE OF THE BASIC FEATURES OF THE MARITIME MOBILE SERVICE AND OF THE MARITIME MOBILE-SATELLITE SERVICE

2. GENERAL PRINCIPLES OF MARITIME COMMUNICATIONS

2.3. Global Maritime and Distress and Safety System (GMDSS)

- 2.3.1 Functional requirements of ship stations:
- details of equipment specifications A1, A2₈ A3&A4
- definitions of coverage and sea areas for
- Digital Selective Calling (DSC)
- details of carriage requirements
- describes Maritime Safety Information (MSI) services
- Watchkeeping procedures as defined in the
 - Radio Regulations and the STCW Code

2.3.2 Sources of power:

- reserve power supplies, capacity and

duration as defined in SOLAS Convention

- reserve/emergency source of energy
- prohibitions on the connection of non-GMDSS

equipment

- reserve source of energy

2.3.3 Means of ensuring availability of ship station

equipment

- equipment duplication

- maintenance strategies and requirements

for the GMDSS as defined in the SOLAS

Convention and the Radio Regulations

2.3.4 Primary and secondary means of alerting

2.3.5 Ship licences and radio certificates:

- details shown on the ships radio licence

- requirements for radio safety certificates

2.3.6 Record keeping and log-book requirements for ship stations:

- details of log-book daily entries

- details of all other periodic entries to include results of equipment tests

etc. as required by the Radio Regulations.

DETAILED PRACTICAL KNOWLEDGE AND ABILITY TO USE THE BASIC EQUIPMENT OF A SHIP STATION

3. GMDSS COMMUNICATION SYSTEMS

3.1 Purpose and use of Digital Selective Calling (DSC) facilities

Digital Selective Calling (DSC)

3.1.1. Basic function of DCS

- DSC message types
- DSC call format
- frequency selection in call format
- call acknowledgment
- call relay process

3.1.2.Call format specifier

- distress call
- all ships call
- call to individual station
- geographic area call
- group call
- automatic/semi-automatic service

3.1.3. The Maritime mobile Service Identity (MMSI) and selection of

the MMSI for calling:

Call address selection with the MMSI number

- the nationality identification

- group calling numbers

- coast station numbers

- ship station numbers

3.1.4. Call categorization

- distress

- urgency

- safety

- other communications

3.1.5. Call telecommand and traffic information:

- Distress alert;
- undesignated Distress messages;
- Distress co-ordinates;
- time and validity of Distress co-ordinates;
- other calls and messages;
- working frequencies and channel selection

3.1.6. Test Calls

- 3.1.7. DSC facilities and usage:
- channel 70 instant alert selector
- the 2187.5 kHz instant alert selector
- manual selection of modes for further communication
- methods of DSC data entry and retrieval
- updating vessel position
- entering preset message
- reviewing received messages

DETAILED PRACTICAL KNOWLEDGE AND ABILITY TO USE THE BASIC EQUIPMENT OF A SHIP STATION

3. GMDSS COMMUNICATION SYSTEMS

3.2 KNOWLEDGE OF THE GENERAL PRINCIPLES OF NBDP AND RADIO TELEX SYSTEMS. ABILITY TO USE MARITIME NBDP AND RADIO TELEX EQUIPMENT IN PRACTICE.

- 3.2.1 NBDP systems
- Automatic systems
- Semi-automatic systems
- Manual systems
- ARQ mode
- FEC mode
- ISS/IRS arrangement
- Master and slave
- Radio telex numbering system
- Answerback

3.2.2 Radio Telex equipment

- Controls and indicators
- Keyboard operation

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DETAILED PRACTICAL KNOWLEDGE AND ABILITY TO USE THE BASIC EQUIPMENT OF A SHIP STATION

3. GMDSS COMMUNICATION SYSTEMS

3.3. Knowledge of the usage of INMARSAT systems. Ability to use INMARSAT equipment or simulator in practice.

3.3.1 Inmarsat satellite systems and network:

- the basic features of the Inmarsat network, including: extent of global

coverage

ocean regions

network co-ordination stations (NCS)

overview of Inmarsat(-A**-B/-C/-E and -M systems

- the use of different Inmarsat systems within the GMDSS

3.3.2 Operation of INMARSAT-A/B Ship Earth Station

- Satellite acquisition
- Telex services
- Telephone services
- Data and facsimile communications

3.3.3 Description and demonstration of an !nmarsat-A ships earth

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station:

- components of an Inmarsat-A ship earth station
- method of acquiring satellite both manually and automatically
- usage of an Inmarsat-A ship earth station
- procedure for sending a Distress message or call using Inmarsat-A
- use of 2-digit code service via Inmarsat-A
- basic procedure for sending and receiving Inmarsat-A
- basic procedure for making a telephone call using Inmarsat-A

3.3.4 Description and demonstration of an Inmarsat-B earth station.

- components of an Inmarsat-B ship earth station
- the basic difference between Inmarsat-A and Inmarsat-IB ship earth station
- method of acquiring satellite both manually and automatically
- usage of an Inmarsat-B ship earth station
- procedure for sending a Distress alert/message or call using

Inmarsat-B

- use of 2-dsgit code service via Inmarsat-B basic procedure for sending and receiving
 - Inmarsat-B telex messages
- basic procedure for making a telephone call using Inmarsat-B

3.3.5 Description and demonstration of an Inmarsat-C ship earth station

- Components of an INMARSAT-C terminal
- Entering/updating position
- Usage of an INMARSAT-C Ship Earth Station
- Sending and receiving text messages;
- Distress and safety services
- Sending a distress alert
- Sending a distress priority message
- The INMARSAT-C safety services
- 2-digit code safety services;

3.3.6 Inmarsat (Enhanced Group Calling) EGC receiver:

- components of an EGC receiver (usually incorporated in an Inmarsat-C)
- entering and updating ship's position both manually and automatically
- usage of an Inmarsat EGC receiver Ship Earth St St.
- pre-programming an SES for EGC message reception
- selecting operating mode for EGC reception

3.3.7 Inmarsat-M ship earth station :

- components of an Inmarsat-M ship earth station
- the basic difference between inmarsat(-A)/-B and Inmarsat-M ship earth station
- the limitations regarding Inmarsat-M and the GMDSS
- method of acquiring satellite both manually and automatically
- usage of an Inmarsat-M ship earth station
- procedure for sending a Distress alert/call using Inmarsat-M ship earth station
- use of 2-digit code service via Inmarsat-M
- basic procedure for making a telephone call using Inmarsat-M

DETAILED PRACTICAL KNOWLEDGE AND ABILITY TO USE THE BASIC EQUIPMENT OF A SHIP STATION

3. GMDSS COMMUNICATION SYSTEMS

3.4.Knowledge of and ability to use in practice the basic equipment of a terrestrial ship station

3.4.1.The purpose of watchkeeping receivers

- The controls and usage of VHF DSC watch receiver
- The controls and usage of MF DSC watch receiver and MF/HF DSC watch receiver

3.4.2. The usage and functions of the VHF radio installation

- Channels
- Controls
- Usage
- DSC facilities

3.4.3. The usage and functions of the MF/HF radio installation:

- use and selection of frequencies
- typical controls and usage

connection of the power

selecting the RX (receive) frequency

selecting TX (transmit) frequency

selecting ITU channel number

tuning the transmitter

selecting the class of emission

using volume control and squelch

using of clarifier or RX (receiver) fine

Tuning

controlling RF gain

3.4.4. Survival craft radio equipment

- Portable two-way VHF radiotelephone apparatus
- Portable two-way VHF on scene communications
- SART

- EPIRBs

3.4.5. Basic antennas systems

- Isolators
- VHF whip antennas
- MF/HF whip antennas
- MF/HF wire antennas
- Satellite antennas

3.4.6. Batteries storage systems

- Different kinds of batteries and their characteristics;
- UPS systems
- Charging of batteries
- Maintenance of batteries
- UPS systems

DETAILED PRACTICAL KNOWLEDGE AND ABILITY TO USE THE BASIC EQUIPMENT OF A SHIP STATION

3. GMDSS COMMUNICATION SYSTEMS

3.5 Fault location and rectification on GMDSS marine electronic equipment

3.5.1 Proficiency in elementary fault location by means of:

- use of manufacturer's documentation to locate simple faults
- basic knowledge of location of major components
- use of built-in test measuring instruments
- use of software in accordance w/the equipm, manuals
- use of test equipment, meters, etc. elementary fault repair such as replacement of user-accessible fuses and indicator lamps and the like

DETAILED PRACTICAL KNOWLEDGE AND ABILITY TO USE THE BASIC EQUIPMENT OF A SHIP STATION

4. OTHER GMDSS EQUIPMENT

4.1. EMERGENCY POSITIONING-LNDICATING RADIOBEACON (EPIRBS)

- 4.1.1. Description of the COSPAS-SARSAT satellite system and EPIRBs:
- the basic operation of the CQSPAS-SARSAT satellite system and signal routing/path
- basic characteristics of operation on 406MHz EPIRB
- the registration and coding of a 406 MHz EPIRB
- basic characteristics of operation on 1.6 GHz EPIRB
- basic characteristics of operation on 121,5MHz
- EPIRB including homing function
- the information content of a Distress alert;
- manual usage/operation
- the float-free function
- the correct use of the lanyard
- routine maintenance
- testing requirements and test operation
- checking battery expiry date
- cleaning/checking float-free mechanism expiry date

4.1.2.The Inmarsat –E EPIRB

- the basic operations of the 1.6 GHz (L-band) EPIRB
- the information content of a Distress alert;
- registration and coding of an L-band EPIRB
- manual operation
- the float-free function
- the correct use of the lanyard
- routine maintenance procedures
- testing requirements and test operation
- checking battery expiry date
- cleaning/checking float-free mechanism

4.1.3. VHF-DSC-EPIRB

- Basic characteristics of operation on CH70

4.1.4. Precautions taken to avoid false Distress alerts

- safe handling procedures
- stopping an unintended false Distress transmission
- transportation precautions

4.1.5. Additional EPIRB features:

- the 121,5 MHz SAR and homing function
- the strobe light function

DETAILED PRACTICAL KNOWLEDGE AND ABILITY TO USE THE BASIC EQUIPMENT OF A SHIP STATION

4. OTHER GMDSS EQUIPMENT

4.2 Search and Rescue Radar Transponder (SART)

4.2.1. Operation and use of SARTs

the main technical characteristics demonstration of operation, height and range considerations demonstration of the effect of a radar demonstration of the radar screen indication demonstration of SART testing procedures routine maintenance procedures operation checking battery expiry date

DETAILED PRACTICAL KNOWLEDGE AND ABILITY TO USE THE BASIC EQUIPMENT OF A SHIP STATION

4. OTHER GMDSS EQUIPMENT

4.3 Reception of Maritime Safety Information

4.3.1 Purpose and use of MSI services:

- message types constituting MSI
- availability of MSI services
- the use of published data on MSI services

4.3.2. Services available and methods of transmission:

- MSI by satellite
- MSI by MF and HF
- MSI by HF telex

4.3.3 Operation and use of the NAVTEX system:

- Purpose of NAVTEX
- operation of the NAVTEX receiver
- NAVTEX frequencies
- coverage areas of transmissions
- reception range of transmitters
- message format (transmitter ID, message type,

message number)

- NAVTEX receiver
 - selection of transmitters
 - selection of message types
 - messages types which cannot be rejected
 - use of subsidiary controls and changing paper
- use of receiver controls

4.3.4.Operation and use of the International SafetyNET Operation and use of the International SafetyNET system/Inmarsat EGC:

- purpose of the EGC system
- all-ships message and Inmarsat system messages
- classes of Inmarsat-C SES and their EGC reception
- describtion of EGC facilities
- program EGC receiver/Inmarsat-C equipment for reception of
- EGC/SafetyNET messages
- Updates ship's position both manually and automatically
- selection of mode for EGC reception

GMDSS SYSTEM AND SUBSYSTEMS

Global Maritime Distress and Safety System

(GMDSS)

- Sea Areas and the GMDSS master plan

Watchkeeping on Distress frequencies as

defined in the Radio Regulations, the SOLAS Convention and the

STCW Convention

functional requirements of ship stations

carriage requirements of ship stations

sources of energy of ship stations including

emergency reserve source of energy

means of ensuring availability of ship station

equipment

Licences, radio safety certificates, radio

operator certificates, inspections and surveys

GMDSS SYSTEM AND SUBSYSTEMS

5. Distress alerting

5.1 Search and Rescue (SAR) operation (8.0 hours)

5.1.1 The role of RCCs (the Rescue Co-ordination Centre):

- Maritime Rescue Organisations
- knowledge of SAR systems worldwide
- knowledge of SAR systems interconnection

5.1.2. The role of SAR:

-Merchant Ship Search and Rescue Manual

(MERSAR)

5.1.3. The role and method of use of ship reporting systems:

- AMVER, JASREP, AtJSREP, etc

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GMDSS SYSTEM AND SUBSYSTEMS

5.2 Distress, urgency and safety communication procedures in the GMDSS

- 5.2.1 Distress communications
- DSC distress alert
- The definition of a distress alert
- Transmission of a distress alert
- Transmission of a shore-to-ship distress alert relay
- Transmission of a ship-to-shore distress alert relay
- Transmission of a distress alert by a station not itself in distress
- Receipt and acknowledgement of DSC distress alert
 - Acknowledgement procedure by radiotelephony
 - Acknowledgement procedure by NBDP
 - Receipt and acknowledgement by a coast station
 - Receipt and acknowledgement by a ship station
 - Handling of distress alerts
 - Preparations for handling of distress traffic
 - Distress traffic terminology
- Testing DSC distress and safety calls
- Cancelling false distress alerts
- On-scene communications
- SAR operation

5.2.2. Urgency and safety communications

- The meaning of urgency and safety communications
- Procedures for DSC urgency and safety calls
- Urgency communications
- Radio medical services
- Medical transports
- Safety communications

5.2.3. Describtion of radiotelephon procedures for Distress, Urgency and Safety communications with non-SOLAS ships which only use radiotelephony:

- the radiotelephone 2182 kHz alarm signal
- the Distress signal
- the Distress call
- the Distress message
- acknowledgement of Distress messages
- Urgency signal
- request for medical advice
- Safety signal

5.2.4. Reception of Maritime Safety Information (MSI)

- reception by NAVTEX
- reception by Inmarsat EGC
- reception by HF NBDP
- the navigational warning signal of the old Distress and Safety System

- the navigational warning signal transmitted by radio telephony

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GMDSS SYSTEM AND SUBSYSTEMS

5.3. GMDSS satellite Distress, Urgency and Safety communication procedures

5.3.1 The Inmarsat (-A)/-B Ship Earth Station alerting functions

- use of the Distress facility

- Distress and Safety procedures

- methods of initiating alerts

- satellite acquisition

- (telex) and telephony distress calls

(telex) and telephony Urgency and Safety calls

procedures for preparation of calls

- details of Rescue Co-ordination Centres (RCCs) associated with Coast

Earth Stations (CESs)

5.3.2. Inmarsat C Ship Earth Station alerting functions:

- Distress and Safety procedures/services

- satellite acquisition

- methods of initiating alerts

- sending a Distress alert

- sending a Distress priority message

- Inmarsat-C Safety services

- 2-digit special access codes and thei purpose
5.3.3 Bridge alarm panel for passenger ships (****) - connection to VHF-DSC, MF/HF-DSC and Inmarsat C and why

OPERATIONAL PROCEDURES AND DETAILED PRACTICAL

OPERATION OF GMDSS SYSTEM AND SUBSYSTEMS

5.4 Protection of Distress frequencies and avoidance of false Distress alerts (3.0 hours)

5.4.1.Methods of preventing false Distress alerts

5.4.2.Procedures to minimize the effect of a false Distress alert

5.4.3.Testing procedures for GMDSS equipment/on Distress frequencies

5.4.4.Prohibitions of transmissions during Distress traffic

5.4.5.Procedures to avoid harmful interference

5.4.6.Regulations regarding prevention of unauthorized transmissions

6. MISCELLANEOUS SKILLS AND OPERATIONAL PROCEDURES FOR GENERAL COMMUNICATIONS

6.1. Ability to use English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea

6.1.1. Explanation of the use of obligatory documents and publications including the use of the International.Code of Signals and the IMO Standard Marine Communication Phrases

6.1.2. Recognition of standard abbreviations and commonly used service codes

6.1.3. Description of the use of International Phonetic Alphabet

6. MISCELLANEOUS SKILLS AND OPERATIONAL PROCEDURES FOR GENERAL COMMUNICATIONS

6.2 Obligatory procedures and practices

6. 2.1 Effective use of obligatory documents and publications- detailed methods of updating information

6. 2.2. Procedures Radio record keeping:

-details log-book requirements and mandatory entries

6. 2.3 Detailed knowledge of the regulations and agreements governing the Maritime Mobile Service and the Maritime Mobile-Satellite Service

6.3. Practical and theoretical knowledge of general

communication procedures

6.3.1. Selection of appropriate communication methods in different situations:

-use of obligatory documentation to determine frequencies

-use of propagation tables

6. 3.2 The use of obligatory documentation to receive traffic lists and meteorological information

6.3.3 Radio telephone calls:

Procedures for radiotelephone calls:

- method of calling coast station by a radio telephony
- requesting/ordering for a manually switched link call
- terminating/ending a call
- special facilities of calls available
- methods of calling a coast station by DSC
- selecting an automatic radio telephone call

6.3.4 Details of radio telegram

- the preamble
- service instructions
- accounting authority identification code (AAIC)
- the address

-	the	text
---	-----	------

- the signature
- types of addressing available
- full address
- registered address
- telephonic address
- telex address (may be omitted)
- counting words
- transmission of telegram by radiotelegrafy

6.3.5 Methods of traffic charges:

- the international charging and accounting system
- Inmarsat communication charging systems
- the AAIC code and use of documentation to determine/verify it
- the meaning of landline (LL), coast station
 (CC) and ship station (SC) charge
- currencies used in charging and conversion
- gold francs and special drawing rights, etc.
- practical traffic routines

6.3.6 World geography, especially the principal shipping routes and related communication routes

7. Assessment and discussion (8h)

2. GMDSS GOC

PROGRESS AND FINAL TESTS

(THEORETICAL AND PRACTICAL) SEARCH AND RESCUE (SAR) EXERCISES FINAL TESTS (SMCP)

GMDSS GOC THEORETICAL TEST TTins.1

No.		ANSWER
TT1.1.	Give a brief definition of the following sea areas: A2, A3.	
TT1.2.		
	What is the ship-to-shore DSC alerting channel/frequency on the following bands?	
	VHF:	
	MF:	
	4 MHz band:	
	8 MHz band:	
TT1.3.	Give the approximate range (i.e. in nautical miles) of frequencies on the following bands:	
	VHF:	
	MF:	
	HF:	
	Which HF-bands would you try during the day time?	
TT1.4.	What is a radio licence, and who issues such a document?	

TT1.5.		
	When using telephony, which channels/frequencies	
	must be used for DISTRESS COMMUNICATION?	
	VHF:	
	MF:	
TT1.6.		
	Define the following types of emission: G3E_A3E	
	Define the following types of emission. OSE, ASE,	
	H3E, G3E, F3E, F1B, J2B.	
TT1.7.		
	You are on board of the Romanian ship DELTA	
	FREEDOM callsign YPMJ,	
	a) How would you make a call to Varna Radio on VHF,	
	and which channel would you use?	
	b) Which VHF channels are assigned for pilot-and-	
	harbour services?	
	c) Make a telephone call to Constantza Radio.	
	Your position is south of Cape Town and the time is	
	11.00 UTC.	

	d) Suggest two alternative for working channels on the same band.e) Which channel would you use to call a non- Romanian coast station on the MF band?	
	f) Which channels are assigned to Romanian vessels for ship-to-shore working purposes on the MF band?	
	g) Using the ITU publications, find the MF frequencies and time schedules for traffic-lists from Olympia Radio (Greece).	
TT1.8.	You are still on board DIAS/SXXXC.	
	At 1230 UTC there was an explosion in the engine room. Your GPS position at 1200 UTC was 55.10 N and 020.1530 W. Write a complete DISTRESS CALL and DISTRESS MESSAGE.	
TT1.9.	You are now on board the FANAGORYA/UFRJ.	<u> </u>
	Give an example of an ACKNOWLEDGEMENT	

	OF DISTRESS ALERT for the above distress	
	message.	
TT1.10.		
	What priority would you give a "MAN	
	OVERBOARD" message?	
TT1.11.		
	Give an example of DISTRESS CALL and DIS-	
	TRESS MESSAGE using the ship's name, IRENE /call	
	sign TFCB, its position 51.00 N and 010.10 W, nature	
	of distress FIRE, time UTC: 1112.	
TT1.12.		
	a) Are TEST TRANSMISSIONS allowed on VHF	
	DSC CH 70?	
	b) What is Varna Radio's MMSI number?	
	c) Which frequency would you use for a ship to share	
	c) which hequency would you use for a ship-to-shore	
111.13.		

	a) Find a telex channel for Portishead Radio on each of the HF-bands:	
	b) Explain the following TELEX modes:	
	FEC:	
	ARQ:	
	c) What do the following telex service codes stand for? GA+?, MOM, NC, NDN, WRU, DER?	
TT1.14.	a) There are many different INMARSAT systems in use today. What are they called?	
	b) Name the basic differences between these systems with regard to antenna systems and services provided:	
TT1.15.	Your ship is in the mid-Pacific. When using your Inmarsat terminal, what prefix do you have to dial in order to send a telex to another ship on the eastern coast of North America?	

TT1.16.	What is the NAVTEX service's international working frequency?	
TT1.17.	What kind of NAVTEX messages can not be rejected?	
TT1.18.	In which ITU publication can you find tables showing the transmission schedules and coast stations found in the NAVTEX system?	
TT1.19.	 a) What is the SPECIFIC GRAVITY of the following accumulators when fully charged? NiCd: Lead accumulators: b) How would you check the charging conditions of a NiCd accumulator? c) How would you check the charging conditions of a lead accumulator? 	

TT1.20.	You are on board the SUNNY DUKE/LAYJ2, the date is today's.
	Fill in the enclosed radio telegram form with the text below. The telegram is to be sent via Nordeich Radio.
	Ship Supplies Hamburg
	ETA Hamburg 26th August 1800 local time stop require cash DM 10000 stop list of provisions will be delivered on arrival
	regards master
	d) Find the charge for this telegram:

GMDSS GOC THEORETICAL TEST TTins.2

No.		ANSWER
TT2.1.	Give a brief definition of the following sea areas: A1, A2.	
TT2.2.	When using telephony, which channels/frequencies must be used for DISTRESS COMMUNICATION? VHF: MF:	
TT2.3.	a) What kind of emission must always be used on 2182 KHz?	
	b) When do you use FIB emission?	
TT2.4.	a) Give an example of a "line-of-sight" communication system:	
	b) What is the approximate safe range for MF communication during the day?	
TT2.5.	What is a RADIO LICENCE and who issues such	

	documents?
TT2.6.	a) You are on board the Bulgarian AMAZON/LZPF How would you make a call to Burgas Radio on the VHF band, and which channel would you use?
	b) Which channels are assigned for internship traffic on the VHF band?
	c) Make a call to Antwerp via Oostende Radio. Your osition is of the coast of Mexic (Rio de Janeiro), and the time is 0800 UTC;
	d) Where can you find the actual calling frequency?
	e) Which channel would you use when calling a non- Norwegian coast station on MF?
	f) Using the ITU publications, find and write down the MF frequencies and time schedules for traffic lists from Singapore Radio:

TT2.7.		
	You are still on board the AMAZON/LAIG4.	
	At 0400 UTC your ship gets a heavy list due to bad weather and water leakage in the cargo holds.	
	Your position is 41.00 N and 01930 W.	
	Write a complete DISTRESS CALL and DISTRESS MESSAGE:	
TT2.8.	a) What is the SAFETY signal in telephony?	
	b) You have observed a drifting anchor buoy that may be dangerous to other ships. How would you send a warning?	
TT2.9.	a) How many digits does an MMSI number consist of?	
	b) What is the MMSI number for Constantza Radio?	
TT2.10.	a) What is the difference between ARQ and FEC?	
	b) Why is it not possible to call another ship station by SCANNING several channels in the same way as you call a coast station?	

	c) What do the following abbreviations stand for? AAIC: CQ: RX: WRU:	
TT2.11.	a) Does the INMARSAT system use polar geostationary satellites?	
	b) Which system uses the ''STORE-AND-FORWARD" method for Inmarsat telex traffic?	
	c) Which satellite do you have to use when your position is somewhere around Sri Lanka?	
	d) What is the EGC-SAFETYNET?	
	e) Can you receive EGC messages via Inmarsat-B?	
TT2.12.	What do you understand from the following NAVTEX message preamble?	

	ZCZC JA21 (Station in Navarea 3)	
	b) Which messages can never be rejected by the NAVTEX system?	
	c) What is the average range of a NAVTEX station in nautical miles?	
TT2.13.	What is the charging condition of your lead accumulators, if the specific gravity is:	
	1.18:	
	1.28:	
TT2.14.	How many hours can a station be running, if the transmitter consumes 15 Ampere, and the battery capacity is 180 Ah?	
TT2.15.	What are the capacity requirements if your ship has an emergency energy source which can ran for 10 hours?	

TT2.16.	 a) Why is it not possible for the 121.5 MHz frequency of the COSPAS-SARSAT EPIRB to provide full global coverage? b) What kind of information is transmitted on the 406 MHz frequency? 	
TT2 17		
	a). What is a SART? b) How is a SART activated?	
TT2.18.	 a) What is the charge for a 4 minute telex to Norway when sent via EIK CES on Inmarsat-A? b) What about the same telex-message sent via Rogaland? c) How often are Traffic Records sent to the Norwegian Telecom? 	

GMDSS GOC PRACTICAL EXAMINATION PT ins.1

PT1.1.	 a) You are on board the AMAZON/LCFX3. Your position is 55.55 N and 00439 E. The time is 0730 UTC. There has been an explosion in the engine room and the situation is critical. Type in the necessary information and transmit the DSC DISTRESS ALERT on MF b) How would you acknowledge receipt of a distress alert? 	
PT1.2.	a) You have lost a man over board in position 45.15 N and 025.10W.	
	Use DSC to announce the message you will send,	
	b) Send the message on a corresponding telephony channel.	
	c) What are you obliged to do once the situation is under control?	
PT1.3.	a) Edit and send a telex message via TOR to CMU - telex number:	

	c) Explain the difference between ARQ and EEC.	
PT1.4.	a) You have to speak to your agent in Greece on MF	
	via Olympia Radio. Make a fictive call to Olympia Radio.	
	b) What will you answer when Olympia Radio asks you about working	
	frequency and accounting code?	
	c) Find the frequency and time schedules for traffic lists from this station.	
PT1.5.	a) Explain and demonstrate the release mechanism of the COSPAS SARSAT EPIRB.	
	b) What kind of information does the EPIRB transmit? Explain the use of the S ART.	

GMDSS GOC PRACTICAL EXAMINATION PT ins.2

No		ANSWER
PT2.1.	You are on board the NEPTUN/YQLM	
	Your position is 66°15 N and 009°33 E and the time is 0915 UTC.	
	The ship has collided with another vessel and develops a heavy list shortly afterwards.	
	a) Type in the necessary information using DSC and transmit the DISTRESS ALERT on VHF.	
	b) Explain how you would transmit a DISTRESS RELAY ALERT on your DSC equipment.	
PT2.2.	a) You observe three drifting containers in position	
	52°15 N and 003° 30 E.	
	Announce the safety message using DSC.	
	b) After you have made the announcement, send the safety message on a corresponding telephony channel.	
PT2.3.	a) Send the following telex message to telex no. 55315 in Bulgaria (Romania) using your Inmarsat-C terminal.	

	To: XXX R	adio/LGP	
	Em: NTC M	lanila	
		anna	
	Date:		
	Att:		
	All the best from the capital of the Spa	i10	
	Au the best from the cupital of the spa	in	
	regards		
	пппп		
	b) Use the NC Simulator and edit a DIS	STRESS	
	ALERT. The position and distress situation	ation is the same	
	as in Question No* 1 a)		
	a) Explain how it is possible to test the	DICTDECC	
	c) Explain now it is possible to test the	DISTRESS	
	FUNCTION on your Inmarsat-C termin	nal.	
PT24			
1 1 2.7.			
	a) Your ship is west of Dakar. One of the	he crew members	
	wants to call his family in Manila by usi	ng HF-telephony.	
	Which coast station would you use an	d what channels?	
	b) Find the MF frequency and time sched	fules for traffic lists	
	b) I ma une ivit nequency and time sened		
	from Singapore Radio		
	nom ongapore rauto.		
D			
РТ2.5.			
	a) Explain the use of COSPAS -SARSAT	EPIRBs	
	and SARTs.		
	b) Explain how you would check the cond	lition of a lead	
	h attam.		
	Dattery.		

GMDSS GOC PRACTICAL EXAMINATION PT ins.3

No.		
PT3.1.	a) You are on board the INDIA / LACG2.	
	Your position is 50 °00 N and 014 °53 W, and the time is	
	0130 UTC There has been an explosion in the cargo	
	control room and the situation becomes critical.	
	Type in the necessary information using DSC, and transmit a DISTRESS ALERT on MF.	
	b) Programme the MF/HF DSC to start scanning on one	
	MF and 5 HF DSC frequencies.	
	c) Order a DSC telephone call to subscriber number 47	
	22778990 in Norway by using DIALPHONE via	
	LYNGB Y RADIO.	
PT3.2.	a) Send the following telex to the Inmarsat-C number	
	by using the IOR satellite and EIK CES.	
	To: XXX	
	Fm: YYY	
	Suggest time and frequencies for HF-voice	

	communication.	
	communication	
	Brgds	
	Piti	
	nnnn	
	b) Use the NC Simulator and edit a distress message	
	using the same distress situation and position as in	
	Ouestion No. 1 a)	
	c) What is EGC-SAFETYNET?	
	Use your Inmarsat-C and select the following Navtex	
	magagage: Dagage Satnay and Ica reports	
	messages. Decca, Samav and ice-reports.	
DT2 2		
P13.3.) Versus sitis is south a CON Leader The shirt	
	a) Your position is south of Sri Lanka. The chief	
	engineer wants to call the office in Oslo via Rogaland	
	Radio. Enter the correct frequencies on your transceiver,	
	and make a "fictive call" to Rogaland Radio.	
	b) Which ITU publication would you use to find a	
	b) which it is publication would you use to find a	
	ship's Selective Call Number.	
DT2 4		
P13.4.		
	a) Your ship is west of Dakar. One of the crew members	

	wants to call his family in Manila by using HF-telephony.
	Which coast station would you use and what channels?
	which coast station would you use and what chamiers:
	b) Find the MF frequency and time schedules for traffic lists
	from Singapore Radio.
PT 2 5	
113.3.	
	a) Explain the use of COSPAS -SARSAT
	EPIRBs and SARTs.
	b) Explain how you would about the condition
	b) Explain now you would check the condition
	of NiCd accumulators
	of filed accumulators.

GMDSS GOC PRACTICAL GOC EXAMINATION P ins.4

No.		ANSWER
PT4.1.	a) You are on board the ANARIA /YQEM.	
	Your position is 50 °00 N and 014 °53 W, and the time is 0130 UTC. There has been an explosion in one of the cargo control room and the master of the ship orders you to send a Distress ALERT .	
	Type in the necessary information using DSC, and transmit a DISTRESS ALERT on MF.	
	b) Which rules apply when acknowledging receipt of a DSC DISTRESS ALERT?	
PT4.2.	a) Send the following telex message to MCU using NBDP terminal (NC SIMULATOR).	
	To: MCU	
	<i>Fm: M/V UMC SCHOOL</i>	
	<i>This is my examination exercise. Suggest time and frequencies for HF-voice communication</i>	

PT4.3.	<i>nnnn</i> b) What is the difference between the function commands TLX and DIRTLX? a) You have observed a drifting anchor buoy in position 63 00 N and 01530 W. Announce the <i>SAFETY message</i>	
	63.00 N and 01530 W. Announce the SAFETY message using DSC.b) After the announcement, send the safety message on a corresponding channel.	
PT4.4.		
	a) Your position is 47.30 S and 179.00 E. Establish a connection with the RCC in Italy by means of your Inmarsat-B terminal (Note! This is not an emergency situation)	
	b) Use the telex two-digit service code for "Medical Advice" via Fucino CES.c) Establish contact with your shipping company in Italy by using the telephone on your Inmarsat-B terminal	

	d) The telephone number is (country code Italy) 123588890.	
PT4.5.	a) Explain the structure of the NAVTEX system.	
	b) Programme your NAVTEX receiver to accept the following types of messages from VARNA RADIO: Ice reports, Decca and Satnav messages.	

GMDSS GOC SAR EXERCISE SAR1

No.	SAR EXERCISE SAR1 (SEA ARIA A1)	
1.		
	SAR exercises 1, 2 : fictive distress situations at sea	
	involving ships and coast radio stations;	
	The object of the examples: to practice relevant distress	
	The object of the examples. to practice relevant distress	
	proceaures on DSC and radiotelephone.	
	Scenario 1: 3 different ships and a coast radio station	
	will participate.	
	Ship 1 /call sign1 - MMSI: 264101000	
	Ship 2 /call sign2 - MMSI: 211202000	
	Ship 3 /call sign3 - MMSI: 25/303000	
	CS) Coast Station - MMSI: 002640570	
2.	The $\ \Omega \ _{1}^{1} = 1$ (and $\ M M \Omega \ _{2}^{1} = 0.0000$ (and $\ \Omega \ _{1}^{1} = 0.0000$	
	The Ship T/call sight - MNISI: 264101000 is en	
	route from Constantza to Istambul.	
	Near the coast of Romania (Sea Area Al), a heavy fire	
	starts in the engine room. There are 15 crew members	
	on hoard and there is a desperate need for fire fighting	
	assistance from other shins in the area	
	usofsunde nom outer smps in the area.	
	Weather: calm sea, visibility about 2 miles in breaking	
	fog.	
----	---	--
	The "Ship 1 /call sign1 - MMSI: 264101000	
	" and the " Ship 3 /call sign3 - MMSI: 257303000"	
	are also in the same area and all stations are within	
	VHF range of each other.	
	See map on next page.	
3.		
	(A) The master of the "Ship 1 /call sign1 - MMSI :	
	264101000" decides to send a DSC Distress	
	Alert on VHF. Only information about the position is	
	included in the DSC Distress Alert.	
	(CS) " Coast Station - MMSI: 002640570"	
	acknowledges receipt of the DSC Distress Alert	
	using DSC	
	using DOC.	
4.		
	(B) The "Ship 2 /call sign2 - MMSI: 211202000	
	acknowledges receipt of the DSC Distress Alert using	
	telephony.	
	Course of action:	
	The "Ship 2 /call sign2 - MMSI: 211202000" on	
	VHF channel 16:	
	MAYDAY	
	MMSI 264101000 MMSI 264101000 MMSI	

	264101000	
	THIS IS	
	SHIP 2 SHIP 2 SHIP 2	
	RECEIVED MAYDAY	
5.		
	(C) " Ship 3 /call sign3 - MMSI: 257303000"	
	acknowledges receipt of the DSC Distress Alert using	
	telephony.	
	MAIDAI MMCI 244101000 MMCI 244101000 MMCI	
	MMSI 204101000 MMSI 204101000 MMSI	
	SHIP 3 SHIP 3 SHIP 3	
	RECEIVEDMAYDAY	
6.	(A) The "Ship 1 /call sign1 - MMSI: 264101000	
	transmits supplementary information about the distress	
	situation including position nature of distress and other	
	relevant information using redictelophony	
	relevant information using radiotelephony.	
	Course of action:	
	The "Ship 1 (asl) size 1 MMSL 2(4101000	
	$\frac{1}{2} = \frac{1}{2} = \frac{1}$	
	on VHF channel 16:	
	MAYDAY	
	THIS IS	
	MMSI 264101000 Ship 1 CALL SIGN 1	
	POSITION 34.45 NORTH AND 028.30 EAST	

	TIME 1215UTC	
	HEAVY FIRE IN ENGINE ROOM	
	NEED IMMEDIATE ASSISTANCE	
	15 CREW MEMBERS ON BOARD	
	WEATHER CALM SEA VISIBILITY 2 MILES IN	
	BREAKING FOG	
	OVER	
7.		
	(CS) "Coast Station - MMSI: 002640570" takes charge	
	of the distress traffic and asks the	
	"Ship 2" and the "Ship 3" to report their positions and ETA	
	at the distress position.	
	Course of action:	
	"Coast Station " on VHF channel 16:	
	MAYDAY	
	SHIP 2 SHIP 2 AND SHIP 3 SHIP 3	
	THIS IS	
	COAST STATION RADIO COAST STATION	
	RADIO	
	GIVE YOUR POSTION AND ETA TO DISTRESS	
	SHIP SHIP 1	
	OVER	
		1

8.	 (B) The "SHIP 2 " reports her position and ETA to the "Coast Station ". <i>Course of action:</i> The "Ship 2 /call sign2 - MMSI: 264202000" on VHF channel 16: <i>MAYDAY</i> <i>COAST STATION RADIO COAST STATION</i> <i>RADIO</i> <i>THIS IS</i> <i>SHIP 2</i> <i>POSITION 34.45 NORTH AND 028.45 EAST</i> <i>ETA IN APPROXIMATELY 1 HOUR</i> <i>OVER</i> 	
9.	OVER (C) The "SHIP 3 " reports her position and ETA to the "Coast Station ". <i>Course of action:</i> The "Ship 3 on VHF channel 16: <i>MAYDAY COAST STATION RADIO COAST STATION RADIO THIS IS SHIP 3 POSITION 34.25 NORTH AND 004.25 EAST</i>	

	ETA IN APPROXIMATELY 1.5 HOUR	
	OVER	
10.	(CS) The "Ship 2 " is closest to the vessel in distress and ""Coast Station " asks the SHIP 2 for assistance.	
	Course of action:	
	"Coast Station " on VHF channel 16:	
	MAYDAY SHIP 2	
	THIS IS	
	COAST STATION RADIO	
	YOU ARE CLOSEST TO SHIP 1	
	SET COURSE TOWARDS THE DISTRESS VESSEL	
	AND ASSIST	
	OVER	
11.		
12.	(B) The "SHIP 2" confirms and proceeds towards the ship in distress to start rescue work.	
	Course of action:	
	The "Ship 2 / on VHF channel 16:	
	MAYDAY	
	COAST STATION RADIO	
	THIS IS	
	SHIP 2	

	RECEIVED AND UNDERSTOOD	
	OVER	
12		
13.	(CS) "COAST STATION RADIO" asks "SHIP 3" to	
	course for the distress area	
	and assist "SHIP 2" if necessary.	
	Course of action:	
	"Coast Station Radio " on VHF channel 16:	
	MAYDAY	
	SHIP 3	
	THIS IS	
	COAST STATION RADIO	
	YOU ARE CLOSEST TO SHIP 1	
	SET COURSE TOWARDS DISTRESS AREA AND	
	ASSIST SHIP 2 IF NECESSARY	
	OVER	
14.	(C) The "SHIP 3" confirms and proceeds towards	
	(c) The STILL'S contains and proceeds towards	
	the ship in distress to assist SHIP 2.	
	Course of action:	
	The "Ship 3 / on VHF channel 16:	
	MAYDAY	
	COAST STATION RADIO	
	THIS IS	
	SHIP 3	

	RECEIVED AND UNDERSTOOD	
	OVER	
15.	(A) After about one hour there are coverned ownlessions on	
	(A) After about one nour mere are several explosions on	
	board the "SHIP 1" and the master gives the order to	
	abandon the ship as the situation has become critical.	
	Course of action:	
	"SHIP 1" on VHF channel 16:	
	MAYDAY	
	SHIP 2	
	SHIP 1	
	SEVERAL SEVERE EXPLOSIONS ON BOARD	
	WE HAVE TO ABANDON SHIP	
	TAKING SART AND PORTABLE VHF WITH US	
	IN 2 LIFE RAFTS	
	OVER	
16.		
	(B) The "SHIP 2" answer and asks the SHIP 1 to	
	activate SART and report own ETA in 25 minutes.	
	Course of action:	
	The "Ship 2 on VHF channel 16:	
	MAYDAY	
	SHIP 1	
	THIS IS	
	SHIP 2	
	RECEIVED AND UNDERSTOOD	
	ACTIVATE YOUR SART	

ETA YOUR POSITION IN 25 MINUTES	
OVER	
(Λ) The "SHIP 1" replies affirmatively and reports that	
the grow are in 2 life rafts and they can communicate	
via portable VHE on channel 16	
via portable vin on channel 10	
Course of action:	
The "Ship 1 / on VHF channel 16:	
MAYDAY	
SHIP 2	
THIS IS	
SHIP 1	
CREW ARE ONBOARD 2 LIFE RAFTS	
ACTIVATING SART	
WE ARE LISTENING PORTABLE VHF CHANNEL	
16	
OVER	
(B) After approximately 1.5 hours the "SHIP 2" has	
nicked up the crew of 15 from the "SHIP 1" The "SHIP 2"	
decides to pull out of the area due to extreme fire	
conditions and danger of explosion reporting to	
"COAST STATION Radio"	
Course of action:	
The "Ship 2 on VHF channel 16:	
MAYDAY	
	 (A) The "SHIP 1" replies affirmatively and reports that the crew are in 2 life rafts and they can communicate via portable VHF on channel 16 <i>Course of action:</i> The "Ship 1 / on VHF channel 16: <i>MAYDAY</i> <i>SHIP 2</i> <i>THIS IS</i> <i>SHIP 1</i> <i>CREW ARE ONBOARD 2 LIFE RAFTS</i> <i>ACTIVATING SART</i> <i>WE ARE LISTENING PORTABLE VHF CHANNEL</i> <i>16</i> <i>OVER</i> (B) After approximately 1.5 hours the "SHIP 2" has picked up the crew of 15 from the "SHIP 1". The "SHIP 2" decides to pull out of the area due to extreme fire conditions and danger of explosion, reporting to "COAST STATION Radio". <i>Course of action:</i> The "Ship 2 on VHF channel 16: <i>MAYDAY</i>

COAST STATION RADIO THIS IS SHIP 2 ALL CREW MEMBERS FROM SHIP 1 RESCUED AND SAFE DUE SEVERE FIRE AND DANGER OF EXPLOSIONS WE ARE PULLING OUT OF THE AREA
OVER
(CS) "COAST STATION RADIO" sends a message to "Sea Lion" informing her that she can continue her voyage as further assistance is no longer necessary.
Course of action:
"Coast Station Radio " on VHF channel 16:
MAYDAY SHIP 3 THIS IS COAST STATION RADIO ALL CREW MEMBERS FROM PROOF TRADER RESCUED YOUR ASSISTANCE IS NOT LONGER NECESSARY THANK YOU FOR CO-OPERATION OVER

20.	(C) The "Ship 3" answers affirmatively and returns to normal track towards next port of call. <i>Course of action:</i>	
	The "Ship 3 / on VHF channel 16:	
	MAYDAY	
	COAST STATION RADIO	
	THIS IS	
	SHIP 3	
	RECEIVED AND UNDERSTOOD	
	CONTINUING OUR VOYAGE	
	OVER AND OUT	
21.	(CS) COAST STATION Radio" informs all stations in the area that complete silence is no longer necessary and that normal working conditions can be resumed.	
	Course of action:	
	"Coast Station " on VHF channel 16:	
	MAYDAY	

ALL STATIONS THIS IS COAST STATION RADIO COAST STATION RADIO TIME 14.50 UTC SHIP 1 SEELONCE FEENEE OVER AND OUT	ALL STATIONS ALL STATIONS	
THIS IS COAST STATION RADIO COAST STATION RADIO TIME 14.50 UTC SHIP 1 SEELONCE FEENEE OVER AND OUT	ALL STATIONS	
COAST STATION RADIO COAST STATION RADIO TIME 14.50 UTC SHIP 1 SEELONCE FEENEE OVER AND OUT	THIS IS	
RADIO TIME 14.50 UTC SHIP 1 SEELONCE FEENEE OVER AND OUT	COAST STATION RADIO COAST STATION	
TIME 14.50 UTC SHIP 1 SEELONCE FEENEE OVER AND OUT	RADIO	
SHIP 1 SEELONCE FEENEE OVER AND OUT	<i>TIME 14.50 UTC</i>	
SEELONCE FEENEE OVER AND OUT	SHIP 1	
OVER AND OUT	SEELONCE FEENEE	
	OVER AND OUT	

GMDSS GOC

FINAL EXAM TESTS

GMDSS GOC - TEST 1 (302181839942)

1 What equipment is programmed to initiate transmission of distress alerts and calls to individual stations?

- A. Scanning Watch Receiver.
- B. Navtex.
- C. GPS.
- D. DSC controller.

2 GMDSS is required for which of the following?

- A. SOLAS Convention ships of 300 gross tonnage or more.
- B. Vessels operating outside of the range of VHF coastal radio stations.
- C. All vessels capable of international voyages.
- D. Coastal vessels of less than 300 gross tons.

3 Which statement best defines the SITOR acronym "ARQ"?

- A. Error Correction when 2 stations are in direct & phased telephone communications with each other.
- B. Either a) or b), depending on transceiver mode selection.
- C. Error correction for one-way telex broadcasts of weather or navigation
- D. None of the above.

4 At what point does a SART begin transmitting?

- A. It immediately begins radiating when placed in the "on" position.
- B. It must be manually activated.
- C. If it has been placed in the "on" position, it will begin transmitting immediately upon detecting that it is in water.
- D. If it has been placed in the "on" position, it will respond when it has been interrogated by a 9-GHz radar signal.

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- 5 In which frequency band does a search and rescue transponder operate?
- A. S-band
- B. 406 MHz
- C. 3 GHz
- D. 9 GHz
- 6 When sending a DSC call:
- A. Vessel's position will automatically be sent if the vessel is sending a "Distress Hot Key" alert.
- B. Vessel's position will automatically be sent.
- C. Vessel's MMSI will indicate its ocean region.
- D. None of these.
- 7 It is possible to transmit all of the following via Inmarsat-C from a vessel except?
- A. Telex.
- B. Comtex mail and x.400 data services.
- C. Text for delivery by Fax.
- D. Voice.
- 8 What is the primary frequency range for long distance skywave communications?
- A. 3-30 MHz
- B. 30-300 MHz
- C. 10-30 MHz
- D. 300-3,000 kHz

9 An incoming DSC Distress Alert on 8414.5 kHz will have what result?

- A. The particulars of the alert may be printed out.
- B. The DSC controller will emit both an audible and visual alarm.
- C. The distress information contained in the alert will be sent to the data directory.
- D. All of the above.

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10 Proper and legal VHF operations require:

- A. The correct bandwidth must be selected by the operator.
- B. Both answers a) and c) are correct.
- C. The power level must be appropriately chosen.
- D. The channel must be designated as valid for the nature or type of communications desired.
- 11 While conducting routine communications using the wheelhouse VHF with a station 1 mile distant, your recommended power setting would be:
- A. 25 watts during a clear sunny day.
- B. 1 watt, day or night.
- C. 1 watt using DSC at night.
- D. 25 watts after dark.
- 12 Which of the following provides a unique automated system capable of addressing messages to pre-determined groups of ships or all vessels in both fixed and variable geographic areas?
- A. EGC.
- B. NAVAREAs.
- C. NAVTEX.
- D. AFRTS.
- 13 Which statement best describes frequency modulation?
- A. The frequency is changed by the information signal and the amplitude remains unchanged.
- B. Both the amplitude and frequency are changed by the modulating signal.
- C. Frequency modulation is subject to interference by atmospheric noise.
- D. High level mixing of the final amplifier signal and the information signal.

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14 Over what system are Enhanced Group Calls transmitted?

- A. By Inmarsat satellite.
- B. By HF SITOR shore stations.
- C. By NAVTEX shore stations.
- D. By COSPAS satellite.

15 Which of the following statements concerning satellite EPIRBs is true?

- A. If the GMDSS Radio Operator does not program the EPIRB, it will transmit default information such as the follow-on communications frequency and mode.
- B. The coded signal identifies the nature of the distress situation.
- C. The coded signal only identifies the vessel's name and port of registry.
- D. Once activated, these EPIRBs transmit a signal for use in identifying the vessel and for determining the position of the beacon.

16 How is a distress priority message ordinarily initiated on board the vessel?

- A. By contacting the CES operator using the radiotelephone distress procedure "Mayday... etc.
- B. By contacting the CES operator, and announcing a distress condition is in existence.
- C. By dialing the correct code on the telephone remote unit.
- D. By pressing one or more dedicated "distress key/s" on the equipment.
- 17 The Distress Alarm sounds and the screen readout no longer contains the particulars of the Distress:
- A. Examine the printer to determine if the particulars were routed to the printer.
- B. Examine the Transmit Data Directory.
- C. Examine the Received Data Directory.
- D. Both a) and d) are correct.

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18 Which of the following statements concerning SITOR communications is true?

- A. Communication is established on the working channel and answerbacks are exchanged before FEC broadcasts can be received.
- B. Two-way communication with the coast radio station using FEC is not necessary to be able to receive the broadcasts.
- C. None of the above.
- D. Weather broadcasts cannot be made in FEC because sending each character twice would cause the broadcast to be prohibitively long.

19 Which of the following statements is true?

- A. The GMDSS Radio Operator can program the NAVTEX receiver to reject all messages except navigation warnings, meteorological warnings, and search and rescue information.
- B. The GMDSS Radio Operator can select the "None" option in the message category menu.
- C. Upon entering a new NAVTEX station's broadcast range, the GMDSS Radio Operators enters the station's selcall number.
- D. The GMDSS Radio Operator can program the NAVTEX receiver to automatically reject any category of messages under the master's authority.

20 What action should you take after sending a false distress alert on 8 MHz?

- A. Make a "MAYDAY" call on 8414.5 kHz canceling the alert.
- B. Make an "ALL SHIPS" call on all 5 H.F. telex channels canceling the alert.
- C. Make an "ALL SHIPS" call on 8291.0 kHz canceling the alert.
- D. Make an "URGENT" call on 8614.0 kHz canceling the alert.
- 21 Which of the following is a correctly formatted Inmarsat-C address book entry for sending telex communications to a vessel in the POR?
- A. 582436559121+
- B. 5821508862+
- C. 872436559121
- D. 582436559121

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22 The process of logging out involves the following:

- A. Obtaining confirmation of log out from the NCS.
- B. None of the above.
- C. Both of the above.
- D. Selecting the proper command from the correct menu.
- 23 For ARQ communications with a Public Correspondence Coast Station, which sequence of events best describes reaching the point in time where the text of telex communications should be sent.
- A. Transceiver setup, SelCall selection, Initiate Call, Automatic Exchange of Answerbacks, OPR+, operator entry of the appropriate automatic telex code.
- B. Transceiver setup, Automatic Exchange of Answerbacks, GA+, operator entry of the appropriate automatic telex code.
- C. Transceiver setup, Automatic Exchange of Answerbacks, OPR+, operator entry of the appropriate automatic telex code.
- D. Transceiver setup, SelCall selection, Initiate Call, Exchange of Station Answerbacks, GA+?, enter DIRTLX xy+, MOM, MSG+? And exchange of terminal answerbacks.
- 24 During ARQ communications, A Coast station will likely break the phased radio connection:
- A. If the error percentage of repeat requests becomes too high.
- B. If the operator enters "KKKK."
- C. If either a) or b) takes place.
- D. If the automatic exchange of answerbacks is interrupted by keyboard entries.

25 What is the purpose of the second I.D. in an Inmarsat-A SES?

- A. To provide for an emergency working frequency.
- B. To provide an additional speech path which may be used to communicate while the first channel is engaged in active communications.
- C. To provide an additional number which may be dedicated to computers, fax, etc.
- D. To provide an alternate number which may be called if a busy signal is received by the calling party.

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- 26 A vessel, before transiting the Panama Canal, on a voyage from San Diego to Miami, loses the ability to communicate via Inmarsat. The most likely cause is:
- A. The vessel has sailed beyond the coverage area of the Pacific satellite.
- B. The vessel has sailed beyond the coverage area of the Western Atlantic satellite.
- C. The satellite orbit is beyond the usable range of the SES.
- D. The vessel has sailed beyond the coverage area of the Southbury Shore Station.

27 How can vessel personnel detect the operation of a SART in its vicinity?

- A. A unique radar signal consisting of a 12 dots radiating outward from a SART's position along its line of bearing.
- B. The SART signal appears as a target which comes and goes; the effect of heavy swells on an SART.
- C. A unique two-tone "warbling" signal heard on VHF-FM Ch-70.
- D. A unique two-tone alarm signal heard upon the automatic un-muting of the 2182 kHz radiotelephone automatic watch receiver.
- 28 What additional equipment provides the maximum availability for receiving SafetyNET broadcasts when the associated Inmarsat-C is being used for telex communications?
- A. HF SSB can be used to receive voice MSI broadcasts.
- B. Automatic switching between Inmarsat-C and EGC functions.
- C. An integrated EGC receiver with the existing Inmarsat-C equipment.
- D. A separate EGC receiver.

29 What is the meaning of "Reserve Source of Energy"?

- A. None of these.
- B. The supply of electrical energy sufficient to operate the radio installations for the purpose of conducting distress and safety communications in the event of failure of the ship's main and emergency sources of electrical power.
- C. Diesel fuel stored for the purpose of operating the powered survival craft for a period equal to or exceeding SOLAS requirements.
- D. High caloric value items for lifeboat, per SOLAS regulations.

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30 Which of the following defines "ITU Channel 1216"?

- A. Ch-16 in the 12 MHz band.
- B. Ch-12 in the 16 MHz band.
- C. Ch-1216 in the MF band.
- D. This would indicate the 16th channel in the 12 MHz band, but Ch-1216 does not yet exist as there are currently only 15 possible channels.

31 How many frequencies are assigned specifically for H.F. MSI broadcasts?

- A. 5
- B. 8
- C. 7
- D. 6
- 32 Which of the following statements concerning GMDSS Radio Operator requirements is false?
- A. Communications involving safety of life at sea do not have to be logged as long as the compulsory vessel was not involved in such communications.
- B. While at sea, adjustments to, and the maintaining of, GMDSS equipment may be performed by the GMDSS Radio Operator as long as the work is supervised by an on-board licensed GMDSS Radio Maintainer.
- C. Each compulsory vessel must carry at least two licensed GMDSS Radio Operators at all times while at sea and may elect to carry a GMDSS Radio Maintainer as well.
- D. Each compulsory vessel must carry at least two licensed GMDSS Radio Operators at all times while at sea.
- 33 Which of the following is a correctly formatted Inmarsat-C address book entry for sending communications to a fax machine number 516-229-4339 in Long Beach, CA, U.S.?
- A. 015162294339
- B. 015162294339#
- C. 15162294339
- D. 1516-229-4339

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- 34 Which statement is correct regarding a method that a vessel experiencing problems with shadowing of the Inmarsat-A SES antenna by an on-board obstruction could use to attempt reliable communications?
- A. Change course to make the communications.
- B. Install a shadow correction filter.
- C. Switch from telex to Voice mode which requires lower signal strength for proper operation.
- D. Change the Coast Station ID programming.
- 35 What does the DSC control unit do if the GMDSS Radio Operator fails to insert updated information when initiating a DSC distress alert?
- A. It will initiate the DSC distress alert, but any station receiving it will have to establish contact with the distressed vessel to determine its identity, position, and situation.
- B. It will abort the transmission and set off an audible alarm that must be manually reset.
- C. It will initiate the DSC distress alert, and default information will automatically be transmitted.
- D. It will initiate the DSC distress alert but, as no information will be transmitted, rescue personnel will not be able to identify the vessel, its position, or its situation.

36 Why is it important to limit the duration of testing a SART?

- A. If another SART is testing at the same time, the two signals will cause damage to the unit that transmitted them.
- B. Excessive testing causes "burn in" on the vessel's radar PPI.
- C. To prevent overheating, a SART requires sufficient ventilation that is significantly reduced when the SART is being tested.
- D. Testing a SART should be performed only in controlled environment as a test signal may be misinterpreted as a genuine distress situation.

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- **37** How can a radio operator determine the best frequency band to choose for a SITOR transmission to a shore station?
- A. Listen to shore station "free signals"; choose the band with the strongest.
- B. During nighttime, choose highest frequencies. Choose lower frequencies in the daytime.
- C. By consulting propagation tables.
- D. If static interference is present, try lower bands first.
- 38 Equipment for radiotelephony use in survival craft stations under GMDSS must have what capability?
- A. Operation on 121.5 MHz.
- B. Operation on Ch-16.
- C. Any one of these.
- D. Operation on 457.525 MHz.
- 39 Aboard ship, SafetyNET messages can be received by which equipment?
- A. NAVTEX Receiver.
- B. Dedicated receiver or optional receiver integrated in vessel's SES.
- C. VHF DSC.
- D. All of these.

40 Which information determines if a NAVTEX message is to be rejected?

- A. Only messages having a serial number 00 are rejected.
- B. Subject indicator (single letter from A to Z indicating the type of message).
- C. Transmitter identity (numerals from 1 to 26 identifying transmitting station within the NAVAREA).
- D. The Answerback of the receiving station has not been entered in the NAVTEX receiver.

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- 41 What is the frequency range for Medium Frequency?
- A. 30-300 kHz
- B. 1,000-10,000 kHz
- C. 10-30 MHz
- D. 300-3,000 kHz
- 42 Which of the following is the call sign for a Romanian coast station?
- A. NERK
- B. YQI
- C. KPH
- D. WCC
- 43 You receive an Urgent DSC call to all vessels specifying an alternate telex frequency & emission. If your transceiver frequency display reads: 2174.5 kHz transmit & 4207.5 kHz receive:
- A. The DSC controller decoded the contents of the DSC call but the request is illegal.
- B. The DSC call came in on 4 MHz DSC but either the call was incorrectly formatted by the other vessel or your controller failed to decode the receive field of the alternate frequency entry and only your Transmit set-up is correct
- C. Both a) and d) are true.
- D. Either the call was incorrectly formatted by the other vessel or the other vessel has presumably lost MF/HF voice capability.

44 What are the mandatory DSC watchkeeping bands/channels?

- A. VHF Ch-70, 2 MHz MF DSC, 6 MHz DSC and 1 other HF DSC.
- B. 8 MHz HF DSC, 1 other HF DSC, 2 MHz MF DSC and VHF Ch-70.
- C. None of the above.
- D. 2 MHz MF DSC, 8 MHz DSC, VHF Ch-16 and 1 other HF DSC.

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- 45 Which action is the most appropriate action for a GMDSS radio Operator to take in a distress situation where immediate help is needed, but the vessel is not sinking nor needs to be abandoned?
- A. Notify the RCC (Rescue Coordination Center) through VHF FM on channel 13.
- B. a) Switch off EPIRB and SART manually.
- C. Transmit distress call by HF/MF/VHF DSC or Inmarsat.
- D. Transmit distress call by activating the radiotelegraph automatic alarm signal.

46 Which of the following is not a DSC watch frequency?

- A. 2182 kHz.
- B. 2187.5 kHz.
- C. 6312 kHz.
- D. 12577 kHz.

47 Proper watchkeeping includes the following:

- A. Responding to and comprehending alarms.
- B. Maintaining a proper GMDSS radio station log.
- C. All of the above.
- D. Understanding the GMDSS console's normal operational indicators.
- 48 Which of the following statements concerning maintenance requirements is true?
- A. The options are duplication of equipment, at-sea maintenance, and shore-based maintenance.
- B. The "at-sea" maintenance may be waived if the compulsory vessel carries at least three licensed GMDSS Radio Operators.
- C. Compulsory vessels between 300-500 gross tons are required only to provide one maintenance option, while compulsory vessels larger than 500 gross tons and all passenger vessels are required to provide any two of the three maintenance options.
- D. Compulsory vessels operating in Sea Area A4 are required to carry at least one licensed GMDSS Radio Maintainer.

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- 49 You look up a frequency table and all the listings end in either .0 or .5 kHz. What kind of emission is used with these frequencies?
- A. SSB Voice.
- B. NBDP/SITOR.
- C. Both of the above.
- D. None of the above.

50 FEC TOR transmissions might be used to?

- A. Receive Coast station traffic lists, NAVTEX and VHF MSI broadcasts.
- B. Receive weather messages or Coast Station traffic lists.
- C. Either b or c might be possible.
- D. Send and receive distress telex communications, receive HF MSI and NAVTEX.

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Subjects: 50	
Correct answers:	

Name CNP

GMDSS GOC - TEST 1 (302181839942) – ANSWERS

No.	Α	В	С	D
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
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16.				
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19.				
20.				
21.				
22.				
23.				
24.				
25.				

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Subjects: 50	
Correct answers:	

Name CNP

GMDSS GOC - TEST 1 (302181839942) – ANSWERS

No.	Α	В	С	D
26.				
27.				
28.				
29.				
30.				
31.				
32.				
33.				
34.				
35.				
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50.				

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TEST 1 (30218183994)2 - ANSWERS AND CHECKING

No subject	check	correct answer		soft answer	index
1	OK	DSC controller.	DSC controller.	309	
2	OK	SOLAS Convention s gross tonnage or more	hips of 300 e.	SOLAS Convention ships of 300 gross tonnage or more.	305
3	OK	None of the above.		None of the above.	483
4	OK	If it has been placed in the "on" position, it will respond when it has		If it has been placed in the "on" position, it will respond when it has been interrogated by a 9-GHz radar	
5	OK	9 GHz		9 GHz	129
6	OK	Vessel's position will automatically be sent if the vessel is sending a		Vessel's position will automatically be sent if the vessel is sending a "Dictress Hot Key" alert	19
7	OK	Voice.		Voice.	371
8	OK	3-30 MHz		3-30 MHz	93
9	OK	All of the above.		All of the above.	549
10	OK	Both answers a) and o	c) are correct.	Both answers a) and c) are correct.	286
11	OK	1 watt, day or night.		1 watt, day or night.	285
12	OK	EGC.		EGC.	339
13	OK	The frequency is char information signal an	nged by the d the amplitude	The frequency is changed by the information signal and the amplitude	
14	OK	By Inmarsat satellite.		By Inmarsat satellite.	337
15	OK	Once activated, these transmit a signal for use	EPIRBs in identifying	Once activated, these EPIRBs transmit a signal for use in identifying the useral and for determining the	146
16	OK	By pressing one or more "distress key/s" on the eq	dedicated uipment.	By pressing one or more dedicated "distress key/s" on the equipment.	412
17	OK	Both a) and d) are correct	it.	Both a) and d) are correct.	544
18	ОК	Two-way communicatio coast radio station using	n with the FEC is not	Two-way communication with the coast radio station using FEC is not	497
19	OK	The GMDSS Radio Ope program the NAVTEX r	erator can receiver to	The GMDSS Radio Operator can program the NAVTEX receiver to	295
20	ОК	Make an "ALL SHIPS" kHz canceling the alert.	call on 8291.0	reject all messages except navigation Make an "ALL SHIPS" call on 8291.0 kHz canceling the alert.	62

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No subject check	correct answer	soft answer	index
21 OK	582436559121	582436559121	395
22 OK	Selecting the proper command from the correct menu.	Selecting the proper command from the correct menu.	174
23 OK	Transceiver setup, SelCall selection, Initiate Call, Exchange of Station	Transceiver setup, SelCall selection, Initiate Call, Exchange of Station Answerbacks, GA+2 enter	519
24 OK	If either a) or b) takes place.	If either a) or b) takes place.	520
25 OK	To provide an additional number which may be dedicated to	To provide an additional number which may be dedicated to	190
26 OK	The vessel has sailed beyond the coverage area of the Pacific satellite.	The vessel has sailed beyond the coverage area of the Pacific satellite.	423
27 OK	A unique radar signal consisting of a 12 dots radiating outward from a	A unique radar signal consisting of a 12 dots radiating outward from a SART's position along its line of	127
28 OK	A separate EGC receiver.	A separate EGC receiver.	418
29 OK	The supply of electrical energy sufficient to operate the radio	The supply of electrical energy sufficient to operate the radio installations for the purpose of	236
30 OK	Ch-16 in the 12 MHz band.	Ch-16 in the 12 MHz band.	446
31 OK	8	8	346
32 OK	Communications involving safety of life at sea do not have to be logged	Communications involving safety of life at sea do not have to be logged as long as the compulsory vessel	231
33 OK	15162294339	15162294339	405
34 OK	Change course to make the communications.	Change course to make the communications.	430
35 OK	It will initiate the DSC distress alert, and default information will	It will initiate the DSC distress alert, and default information will sutematically be transmitted	25
36 OK	Testing a SART should be performed only in controlled environment as a	Testing a SART should be performed only in controlled environment as a	136
37 OK	Listen to shore station "free signals"; choose the band with the strongest.	Listen to shore station "free signals"; choose the band with the strongest.	543
38 OK	Operation on Ch-16.	Operation on Ch-16.	208
39 OK	Dedicated receiver or optional receiver integrated in vessel's SES.	Dedicated receiver or optional receiver integrated in vessel's SES.	328
40 OK	Subject indicator (single letter from A to Z indicating the type of message).	Subject indicator (single letter from A to Z indicating the type of message).	323
41 OK	300-3,000 kHz	300-3,000 kHz	88
42 OK	YQI	YQI	261
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No subject	check	correct answer	soft answer	index
43	OK	Both a) and d) are true.	Both a) and d) are true.	546
44	OK	8 MHz HF DSC, 1 other HF DSC, 2 MHz MF DSC and VHF Ch-70.	8 MHz HF DSC, 1 other HF DSC, 2 MHz MF DSC and VHF Ch-70.	249
45	OK	Transmit distress call by HF/MF/VHF DSC or Inmarsat.	Transmit distress call by HF/MF/VHF DSC or Inmarsat.	112
46	OK	2182 kHz.	2182 kHz.	29
47	OK	All of the above.	All of the above.	251
48	ОК	The options are duplication of equipment, at-sea maintenance, and	The options are duplication of equipment, at-sea maintenance, and shore-based maintenance	85
49	OK	NBDP/SITOR.	NBDP/SITOR.	167
50	OK	Either b or c might be possible.	Either b or c might be possible.	507

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GMDSS GOC:

English Language Tests (SMCP TESTS)
Subjects: 20	Name
Correct answers:	CNP

English language Test1 for candidates to obtain the GMDSS GOC

Translate from English language into Romanian language:

1.	I require / MV requires assistance.
2.	What is your position?
3.	Did you transmit a DSC distress alert?
4.	What is the weather situation in your position?
-	
5.	Vessel in position disabled and adrift.
(
6.	Received your MAYDAY.
7	What is your ETA at distress position?
7.	
8	What is the result of search?
0.	
9.	Do you require medical assistance?
10.	What problems does MV have?
11.	Stand by on VHF Channel
12.	What is wind direction and force in your position?
13.	The atmospheric pressure in my position is millibars/hectopascals.
14.	Is the sea state expected to change (within the next hours)?

15.	Visibility is restricted by dust.
16.	Uncharted dangerous wreck located in position
17.	Located oil spill in your wake.
18.	What is course and speed of the polluter?
19.	The pilot ladder is rigged on port side.
20.	Rig the accommodation ladder in combination with the pilot ladder.

Subjects: 20	
Correct answers:	

Name CNP

GMDSS GOC – SMCP TEST 2–

English language Test2 for candidates to obtain the GMDSS GOC

Translate from English language into Romanian language:

1.	I require / MV requires assistance.
2.	What is your position?
3.	Did you transmit a DSC distress alert?
4.	What is the weather situation in your position?
5.	Vessel in position disabled and adrift.
6.	Received your MAYDAY.
_	
7.	What is your ETA at distress position?
0	
8.	what is the result of search?
0	Do you require modical agaistance?
9.	
10	What problems does MV have?
10.	
11	Stand by on VHF Channel
12.	What is wind direction and force in your position?
13.	The atmospheric pressure in my position is millibars/hectopascals.
14.	Is the sea state expected to change (within the next hours)?
15.	Visibility is restricted by dust.

16.	Uncharted dangerous wreck located in position
17.	Located oil spill in your wake.
18.	What is course and speed of the polluter?
19.	The pilot ladder is rigged on port side.
20.	Rig the accommodation ladder in combination with the pilot ladder.

Subjects: 20	Name
Correct answers:	CNP

English language Test3 for candidates to obtain the GMDSS GOC

Translate from English language into Romanian language:

1.	I have / MV has problems with cargo / engine(s) / navigation
2.	I require / MV requires medical assistance.
3.	I have / MV has damage to navigational equipment
4.	What is the result of search?
5.	Continue search in position
(
6.	What is wind direction and force in your position / in position
7	What is your ETA at distross position?
1.	
8	Will show following signals / lights
0.	
9.	Do you require medical assistance?
10.	How many persons will stay on board?
11	
11.	Did you transmit a DSC distress alert?
12	Vac. my EDIP B/SAPT is transmitting by mistake
12.	i cs, my Li md/ SAR i is ualisimung by mistare.
13	What is the weather situation in your position?
10.	
14.	Are there dangers to navigation?

15.	Assist with search in vicinity of position
16.	I am / MV is proceeding for assistance.
17.	Located oil spill in your wake.
18.	What is the latest gale / storm warning?
19.	Gale / storm warning. Winds at hours UTC in area (met.area) from direction
20.	Rig the accommodation ladder in combination with the pilot ladder.

Subjects: 20	Name
Correct answers:	CNP

English language Test4 for candidates to obtain the GMDSS GOC

Translate from English language into Romanian language:

1.	The tide is rising / falling.
2.	Is the depth of water sufficient in position ?
3.	Did you transmit a DSC distress alert?
4.	Yes, I can pick up survivors.
5.	What is the result of search?.
6.	Will proceed to pick up survivors.
7.	What is your ETA at distress position?
8.	Survivors in bad / good condition.
9.	Do you require medical assistance?
10.	Try to obtain information from survivors.
11.	Stand by on VHF Channel
12.	What is wind direction and force in your position?
13.	Total number of persons on board was
14.	Is the sea state expected to change (within the next hours)?

15.	We finish with SAR operations.
16.	Uncharted dangerous wreck located in position
17.	I have / MV has stability problems due to heavy icing.
18.	What is course and speed of the polluter?
19.	The pilot ladder is rigged on port side.
20.	Visibility is restricted by mist / fog / snow / dust / rain.

Subjects: 20	Name
Correct answers:	CNP

GMDSS GOC – SMCP TEST 5 – English language Test5 for candidates to obtain the GMDSS GOC

Translate from English language into Romanian language:

1.	The tide is rising / falling.	
2.	Visibility is expected to be variable between metres / nautical miles.	
3.	I / MV will send boat / helicopter to transfer doctor.	
4.	Yes, I can pick up survivors.	
5.	Navigation is dangerous in area around due to floating ice / pack ice / iceberg(s).	
-		
6.	Will proceed to pick up survivors.	
7.	The present tide is metres above / below datum in position	
8.	Stand by pilot ladder.	
9.	Do you require medical assistance?	
10.	You must rig another pilot ladder.	
11.	Stand by on VHF Channel	
10		
12.	What is wrong with the pilot ladder?	
12	Total number of nersons on board was	
13.	Total number of persons on board was	
14	Is the sea state expected to change (within the next hours)?	
17.	is the sea state expected to change (within the next notifs):	
15	Have a heaving line ready at the pilot ladder	
10.	That's a neuring fine ready at the protinuder.	

16.	Uncharted dangerous wreck located in position	
17.	I have / MV has stability problems due to heavy icing.	
18.	What is course and speed of the polluter?	
19.	Make a lee on your port side / starboard side.	
20.	Visibility is restricted by mist / fog / snow / dust / rain.	

Subjects: 20	Name
Correct answers:	CNP

English language Test6 for candidates to obtain the GMDSS GOC

Translate from English language into Romanian language:

1.	Keep the sea on your port quarter / starboard quarter.	
2.	Visibility is expected to be variable between metres / nautical miles.	
3.	Stop engine(s) until pilot boat is clear.	
4.	Yes, I can pick up survivors.	
~		
Э.	Navigation is dangerous in area around due to floating ice / pack ice / iceberg(s).	
6	Put engine(s) ahead / astern	
0.	Tut engine(s) anead / astern	
7.	The present tide is metres above / below datum in position	
	r	
8.	Boarding arrangements do not comply with SOLAS Regulations.	
9.	Do you require medical assistance?	
10.	Vessel is not suited for the pilot ladder	
11.	Stand by on VHF Channel	
10		
12.	In what position will the tug(s) meet me?	
12	Total number of persons on board was	
13.	Total number of persons on board was	
14	Is the sea state expected to change (within the next hours)?	
	is the set state expected to entitie (whill the next hours):	
15.	Have a heaving line ready at the pilot ladder.	

16.	Wait for the tug(s) in position	
17.	I have / MV has stability problems due to heavy icing.	
18.	What is course and speed of the polluter?	
19.	Make a lee on your port side / starboard side.	
20.	Are you underway?	

English language Test7 for candidates to obtain the GMDSS GOC

Subjects: 20

Name

Correct answers:

CNP

GMDSS GOC – SMCP TEST 7

Translate from English language into Romanian language:

1.	Do you have any list?	
2.	I require / MV requires medical assistance.	
3.	I have / MV has damage to navigational equipment	
4.	What is your cargo?	
5.	Do you carry any dangerous goods?	
6.	What is wind direction and force in your position / in position	
7.	What is your ETA at distress position?	
8.	Vessel is not suited for the pilot ladder	
9.	Do you require medical assistance?	
10.	How many persons will stay on board?	
11.	Did you transmit a DSC distress alert?	
12.	Do you carry any dangerous goods?	
13.	What is the weather situation in your position?	
14.	Are there dangers to navigation?	
15.	Wait for the tug(s) in position	

16.	I am / MV is proceeding for assistance.
17.	Located oil spill in your wake.
18.	What is the latest gale / storm warning?
19.	Submarines operating in sea area around
20.	Ri You are approaching the (cardinal points/half cardinal points) limit of the fairway.

Subjects: 20	Name
Correct answers:	CNP

English language Test8 for candidates to obtain the GMDSS GOC

Translate from English language into Romanian language:

1.	Course to make good is degrees.	
2	Visibility is avassed to be variable between matrix (neutical miles	
۷.	visibility is expected to be variable between metres / nautical miles.	
3.	You will meet crossing traffic in position	
4.	Yes, I can pick up survivors.	
5.	Submarines operating in sea area around	
6.	Will proceed to pick up survivors.	
7.	The present tide is metres above / below datum in position	
8.	Vessel not under command in position / area	
9.	Do you require medical assistance?	
10.	You must rig another pilot ladder.	
11.	Stand by on VHF Channel	
10		
12.	What is wrong with the pilot ladder?	
13.	Total number of persons on board was	
14.	What is your cargo?	

15.	Have a heaving line ready at the pilot ladder.	
16.	Uncharted dangerous wreck located in position	
17.	I have / MV has stability problems due to heavy icing.	
18.	Embarkation is not possible.	
19.	Make a lee on your port side / starboard side.	
20.	Put engine(s) ahead / astern.	

Subjects: 20	
Correct answers:	

Name CNP

GMDSS GOC – SMCP TEST 9

English language Test9 for candidates to obtain the GMDSS GOC

Translate from English language into Romanian language:

1.	Call the Master at hours UTC / in position					
2.	Visibility is expected to be variable between metres / nautical miles.					
3.	Next weather report is at hours hours UTC.					
4.	What signals / communications are used in case of emergency ?					
_						
5.	Submarines operating in sea area around					
6	How many tuga da yay raguira?					
0.						
7	The present tide ismetres above / below datum in position					
7.						
8.	Where is the whistle control?					
9.	Do you require medical assistance?					
10.	You must rig another pilot ladder.					
11.	Stand by on VHF Channel					
10						
12.	What is wrong with the pilot ladder?					
13	Switch on / off the electrical lighting in					
13.	Switch on / on the electrical lighting in					
14.	What are the maximum revolutions ahead / astern?					

15.	Do the twin propellers turn inward or outward when going ahead?				
16.	Uncharted dangerous wreck located in position				
17.	I have / MV has stability problems due to heavy icing.				
18.	You are proceeding at a dangerous speed.				
19.	Make a lee on your port side / starboard side.				
20.	Put engine(s) ahead / astern.				

Subjects: 20	Name
Correct answers:	CNP

English language Test10 for candidates to obtain the GMDSS GOC

Translate from English language into Romanian language:

1.	Flooding is under control.
2.	What kind of assistance is required?
3.	The crates / cases with(cargo) are renailed.
4.	The(cargo) is in a bad condition.
5.	Submari Instruct the pumpman / and report.
6.	How many tugs do you require?
7.	The present tide is metres above / below datum in position
8.	Where is the whistle control?
9.	Do you require medical assistance?
10	
10.	Close the sea-valves / discharges and report.
11	
11.	Stand by on VHF Channel
12	What was the number of nervons in water 9
12.	
13	What was, the total number of persons on board the vessel in distress?
13.	what was the total number of persons on board the vesser in distress?
14.	Replace the damaged / missing lifebuoy(s).
15.	Do the twin propellers turn inward or outward when going ahead?

16.	Uncharted dangerous wreck located in position
17.	I have / MV has stability problems due to heavy icing.
18.	You are proceeding at a dangerous speed.
19.	Make a lee on your port side / starboard side.
20.	What was the number of persons in water ?

ANNEXES

GMDSS FREQUENCIES

Distress,	D	SC	R/T	NBDP (Telex)	
Urgency &					
Safety					
	2187.5 kHz 218		2182 kHz	2174.5 kHz	
	4207.	5 kHz	4125 kHz	4177.5 kHz	
	6312	2 kHz	6215 kHz	6268 kHz	
	8414.	5 kHz	8291 kHz	8376.5 kHz	
	12577 kHz		12290 kHz	12520 kHz	
	16804	.5 kHz	16420 kHz	16695 kHz	
	156.525 MHz		156.650 MHz*		
	(chan	nel 70)	(channel 13)		
			156.8 MHz		
			(channel 16)		
			121.5 MHz**		
	*Ship-sl	nip Safety	of navigation comm	unications	
	**Ship-a	ircraft	-		
NAVTEX	490 kHz		National language	broadcasts	
	518 kHz		English language	broadcasts	
	4209 kHz		National language	broadcasts	
Maritime Safety	4210 kH	Z	12579 kHz	22376	
Information				kHz	
	6314 kHz		16806.5 kHz	26100.5	
				kHz	
	8416 kH	Z	19680.5 kHz		
DSC CALLING	Shin-Sho	re	2189 5 kHz (+ nat	ional frequencies)	
DSC CALLING	Shin-Shi	n	2177 kHz (+ acknowledgement)		
	Shore-Sł	nin	2177 kHz (+ natio	ational frequencies)	
	VHF DS	C calling	156.525 MHz (cha	unnel 70)	
		U	X	,	
On Scene Commun	ications	2182 kH	Z	5680 kHz	
	3023 kHz		Z	Channel 6+	
		4125 kH	Z*	Channel 16	
		123,1 M	Hz*		
		* 01 · · ·			
		* Ship-ai		• . 1•	
		+Channe	el 6 is also the prima	ry inter-ship	
		nequenc	у		
Survival Craft		Channel	16		
		C			
	GN	ADSS GOC	INSTRUCTOR HANDE	BOOK.238	

On-Board Communications	Channel 15	1 watt
	Channel 17	1 watt
Bridge-Bridge	Channel 13 – commun of navigation	ications relating to safety

ANNEX2.1

TABLE OF TRANSMITTING FREQUENCIES IN THE VHF MARITIME MOBILE BAND 156-174 MHZ

Channal 0	156.000 MHz	HM Coastguard
Channel 0	160.600 MHz	HM Coastguard

		Transmitting frequencies (MHz)		Inter Ship	Port oper	Port operations		Ship Movement	
Cha	nnel	Ship stations	Coast stations	h	Single frequen	Two frequency	Single frequency	TTwo frequency	
	60	156.025	160.625			17		9	25
01		156.050	160.650			10		15	8
	61	156.075	160.675			23		3	19
02		156.100	160.700			8		17	10
	62	156.125	160.725			20		6	22
03		156.150	160.750			9		16	9
	63	156.175	160.775			18		8	24
04		156.200	160.800			11		14	7
	64	156.225	160.825			22		4	20
05		156.250	160.850			6		19	12
	65	156.275	160.875			21		5	21
06		156.300		1					
	66	156.325	160.925			19		7	23
07		156.350	160.950			7		18	11
							HMCG	- Small shi	ps rescue
	67	156.375	156.375	9	10			9	•
08		156.400		2					
							Main	ly shipping	agents
	68	156.425	156.425		6			2	-
							Pilo	otage	
09		156.450	156.450	5	5		1	2	
	69	156.475	156.475	8	11		4		
							Oil po	ollution	
10		156.500	156.500	3	9		1	0	
	70	156.525	156.525		Digital selec	tive calling	for distress, sa	fety and ca	lling
11		156.550	156.550		3		1		
	71	156.575	156.575		7		6		
12		156.600	156.600		1		3		
L	72	156.625		6					
							Navigation (b	safety com ridge-brid	munications ge)

								5	
13		156.650	156.650	4	4				
	73	156.675	156.675	7	12			11	-
14		156.700	156.700		2		7		
	74	156.725	156.725		8		Mainly ship	oping agents	
15		156.750	156.750	11	14		on-board cor	nmunicatio	ons
							1	.4	
	-	161.350	161.350			on-board	l communicatio	ns	
	75	156.775				Guard bar	d 156.7635-15	6.7875 MH	Z
16		156.800	156.800		(R	(T) DISTRE	SS, SAFETY	AND CAL	LING
	76	156.825			I	Guard bar	d 156.8125-15	6.8375 MH	Z
17		156.850	156.850	12	13		on-board cor	nmunicatio	ons
				-			1	.3	
	-	161.450	161.450			on-board	communicatio	ons	
	77	156.975		10		- -	1		
10	//	156.875	1(1.500	10		2		22	
18	70	156.900	161.500			3		12	27
10	/8	156.925	161.525			12		13	27
19	70	156.950	161.550		1	4		21	
20	/9	156.975	161.575			14		1	
20	0.0	157.000	161.600	-		1		23	
0.1	80	157.025	161.625	-		16		2	
21	0.1	157.050	161.650	-		5		20	20
22	81	157.075	161.6/5			15		10	28
22		157.100	161.700			2		24	26
	82	157.125	161.725	-		13		11	26
23	0.2	157.150	161./50	-					5
	83	157.175	161.775			-			16
24	0.4	157.200	161.800			2.1		10	4
	84	157.225	161.825			24		12	13
25	0.5	157.250	161.850			-			3
	85	157.275	161.875			-			17
26		157.300	161.900			-			1
	86	157.325	161.925						15
27	07	157.350	161.950						2
•	87	157.375	157.375						14
28	0.0	157.400	162.000						6
, -	88	157.425	157.425						18
A	IS 1	161.975	161.975						
AIS 2		162.025	162.025					1	

ANNEX2.2

U.S. VHF CHANNELS

Channel Number	Ship Transmit MHz	Ship Receive MHz	Use
01A	156.050	156.050	Port Operations and Commercial, VTS. Available only in New Orleans / Lower Mississippi area.
05A	156.250	156.250	Port Operations or VTS in the Houston, New Orleans and Seattle areas.
06	156.300	156.300	Intership Safety
07A	156.350	156.350	Commercial
08	156.400	156.400	Commercial (Intership only)
09	156.450	156.450	Boater Calling. Commercial and Non- Commercial.
10	156.500	156.500	Commercial
11	156.550	156.550	Commercial. VTS in selected areas.
12	156.600	156.600	Port Operations. VTS in selected areas.
13	156.650	156.650	Intership Navigation Safety (Bridge-to-bridge). Ships >20m length maintain a listening watch on this channel in US waters.
14	156.700	156.700	Port Operations. VTS in selected areas.
15		156.750	Environmental (Receive only). Used by Class C EPIRBs.
16	156.800	156.800	International Distress, Safety and Calling. Ships required to carry radio, USCG, and most coast stations maintain a listening watch on this channel.
17	156.850	156.850	State Control
18A	156.900	156.900	Commercial
19A	156.950	156.950	Commercial
20	157.000	161.600	Port Operations (duplex)
20A	157.000	157.000	Port Operations
21A	157.050	157.050	U.S. Coast Guard only
22A	157.100	157.100	Coast Guard Liaison and Maritime Safety Information Broadcasts. Broadcasts announced on channel 16.
23A	157.150	157.150	U.S. Coast Guard only

24	157.200	161.800	Public Correspondence (Marine Operator)		
25	157.250	161.850	Public Correspondence (Marine Operator)		
26	157.300	161.900	Public Correspondence (Marine Operator)		
27	157.350	161.950	Public Correspondence (Marine Operator)		
28	157.400	162.000	Public Correspondence (Marine Operator)		
63A	156.175	156.175	Port Operations and Commercial, VTS. Available only in New Orleans / Lower Mississippi area.		
65A	156.275	156.275	Port Operations		
66A	156.325	156.325	Port Operations		
67	156.375	156.375	Commercial. Used for Bridge-to-bridge communications in lower Mississippi River. Intership only.		
68	156.425	156.425	Non-Commercial		
69	156.475	156.475	Non-Commercial		
70	156.525	156.525	Digital Selective Calling (voice communication not allowed)		
71	156.575	156.575	Non-Commercial		
72	156.625	156.625	Non-Commercial (Intership only)		
73	156.675	156.675	Port Operations		
74	156.725	156.725	Port Operations		
77	156.875	156.875	Port Operations (Intership only)		
78A	156.925	156.925	Non-Commercial		
79A	156.975	156.975	Commercial. Non-Commercial in Great Lakes only		
80A	157.025	157.025	Commercial. Non-Commercial in Great Lakes only		
81A	157.075	157.075	U.S. Government only - Environmental protection operations.		
82A	157.125	157.125	U.S. Government only		
83A	157.175	157.175	U.S. Coast Guard only		
84	157.225	161.825	Public Correspondence (Marine Operator)		
85	157.275	161.875	Public Correspondence (Marine Operator)		
86	157.325	161.925	Public Correspondence (Marine Operator)		
AIS 1	161.975	161.975	Automatic Identification System (AIS)		
AIS 2	162.025	162.025	Automatic Identification System (AIS)		
88A	157.425	157.425	Commercial, Intership only.		

VHF MARITIME SPECTRUM CHART

Channel	Frequency (MHz)
WX1	162.550
WX2	162.400
WX3	162.475
WX4	162.425
WX5	162.450
WX6	162.500
WX7	162.525

NOAA Weather Radio Frequencies

Frequencies are in MHz. Modulation is 16KF3E or 16KG3E.

ANNEX3.1

INMARSAT A LAND EARTH STATION OPERATORS AND ACCESS CODES (06. 2004)

Land Earth	Country	AO	<u>R E</u>	AOF	RW	ΙΟ	R	PO	R
Station	J								
Operator		Octal	Dec	Octal	Dec	Octal	Dec	Octal	Dec
Beijing MCN	China	13-7	11-7	13-7	11-7	11	09	11	09
Embratel	Brazil	14	12						
Far East	Russia							15	13
Shipping									
Company									
France Telecom	France	17	15	17	15	17	15	17	15
KDD	Japan	03	03	03	03	03	03	03	03
Korea Telecom	South Korea	06	06	13-5	11-5	13-2	11-2	04	04
Malaysia	Malaysia	13-2	11-2	13-2	11-2	13-3	11-3	13-3	11-3
Telekom									
OTE	Greece	15	13	07	07	05	05	07	07
Polish Telecom	Poland	16	14			16	14		
Reach	China	13-5	11-5	13-5	11-6	13-5	11-6	13-5	11-6
Networks Hong									
Kong									
Singapore	Singapore	13-1	11-1			13-1	11-1		
Telecom									
Stratos Mobile	Canada	02	02	02	02			05	05
Networks									
Stratos	Canada					14	12		
(Goonhilly									
LES)									
Telecom Italia	Italy	05	05	05	05	13-4	11-4	13-4	11-4
Telenor	USA	01	01	01	01	01	01	01	01
Satellite									
Services Inc									
Telenor	Norway	04	04	04	04	04	04		
Satellite									
Services AS									
Turk Telecom	Turkey	10	08			10	08		
VSNL	India	13-4	11-4	06	06	06	06	06	06
Xantic	Netherlands	12	10	12	10	12	10	12	10
Xantic	Australia	13-3	11-3	13-3	11-3	13-3	11-3	13-3	11-3

ANNEX3.2

INMARSAT M/B LAND EARTH STATION OPERATORS AND ACCESS CODES (01. 2007)

	() ()			IOD	DOD
Land Earth Station	Country	AOR E	AOR W	IOK	POR
Operator					
Beijing MCN	China	868	868	868	868
Bezeq	Israel	711	711	711	711
France Telecom	France	011	011	011	011
FT MSC GmbH (former	France	111	111	111	111
DeTeSat)					
KDDI	Japan	003	003	003	003
Korea Telecom	South Korea	006	006	006	006
Malaysia Telekom	Malaysia	060	060	060	060
(Virtual)					
Ministere des Posts et	Algeria	777			
Telecommunications	_				
Morsviazsputnik (Virtual)	Russia	015	015	015	015
OTE	Greece	005	005	005	005
Reach Networks Hong	China	118	118	118	118
Kong Ltd. (Virtual)					
Singapore Telecom	Singapore	210	210	210	210
Stratos Global (Virtual)	Canada	013	013	013	013
Stratos Global (Goonhilly	United Kingdom	002			
LES)					
Stratos Global (Burum	Netherlands		002	002	
LES)					
Stratos (Auckland LES)	New Zeeland				002
Stratos Global (Burum	Netherlands	012	012	012	212
LES)					
Stratos Global (Perth LES)	Australia	222	222	222/02	222/022
				2	
Telecom Italia	Italy	555	555	555	555
Telekomunikacja Polska	Poland	016		016	
Telenor Satellite Services	USA	001	001	001	001
Inc					
Telenor Satellite Services	Norway	004	004	004	004
AS	~				
VISHIPEL	Vietnam			009	
VSNL	India	306	306	306	306

ANNEX3.3

INMARSAT C LAND EARTH STATION OPERATORS AND ACCESS CODES(01. 08. 2008)

Land Earth Station	Country				
Operator		AOR E	AOR W	IOR	POR
Beijing Marine	China			311	211
Bezeq	Israel	127		327	
Vizada	France	121	021	321	221
KDDI	Japan	103	003	303	203
Morviasputnik	Russia	117		317	217
OTE	Greece	120		305	
Embratel	Brazil	114			
Singapore Telecom	Singapore			328	210
Stratos Global (Burum	Netherlands	112	012	312	212
LES)					
Stratos Global (Burum-2	Netherlands	102	002	302	
LES)					
Stratos Global	New Zealand				202
(Auckland LES)					
Telecom Italia	Italy	105		335	
Telecomunikacja Polska	Poland	116		316	
Vizada	Norway	104	004	304	204
Vizada	USA	101	001	301	201
Vishipel	Vietnam			330	
VSNL	India			306	

ANNEX 3.4. INMARSAT FLEET AND SWIFTH LAND EARTH STATION OPERATORS AND ACCESS CODES (05.01.2007)

Land Earth Station Operator	Country	Ocean Region			
		AOR- E	AOR-W	IOR	POR
Beijing MCN	China	868	868	868	868
France Telecom	France	011	011	011	011
KDDI	Japan	003	003	003	003
Korea Telecom	South Korea	006	006	006	006
Malaysia Telecom (Virtual)	Malaysia	060	060	060	060
Ministere de Posts et	Algeria	777			
Telecommunications					
OTE	Greece	005	005	005	005
Singapore Telecom	Singapore	210	210	210	210
Stratos Global (Goonhilly	UK	002			
LES)					
Stratos Global (Burum LES)	Netherlands		002	002	
Stratos Global (Auckland	New Zealand				002
LES)					
Stratos Global (Perth LES)	Australia			022	
Telecom Italia	Italia	555	555	555	555
Telenor Satellite Services AS	Norway	004	004	004	004
Telenor Satellite Services	USA	001	001	001/405	001
Inc.					
VSNL	India			306	

ANNEX3.5 INMARSAT FLEET F33 LES OPERATORS AND ACCESS CODES

Land Earth Station Operator	Country		Ocean Region			
		AOR-E	AOR-W	IOR	POR	
Beijing MCN	China			868	868	
France Telecom	France	011	011	011	011	
KDDI	Japan	003	003	003	003	
Korea Telecom	South Korea			006	006	
OTE	Greece	005	005	005	005	
Telenor Satellite Services	Norway	004	004	004	004	
AS						
Telenor Satellite Services	USA	001	001	001	001	
Inc.						
Stratos Global (Goonhilly	UK	002				
LES						
Stratos Global (Burum	Netherlands		002	002		
LES)						
Stratos Global (Auckland	New Zealand				002	
LES)						
Stratos Global (Burum	Netherlands	012	012	012		
LES)						
Stratos Global (Perth LES)	Australia				012	
Telecom Italia	Italy	555	555	555		
VSNL	India			306		

ANNEX3.6 INMARSAT SWIFT 64 LAND EARTH STATION OPERATORS AND ACCESS CODES

Land Earth Station	Country		Ocean Region			
Operator		AOR-E	AOR- W	IOR	POR	
Telenor Satellite Services AS	Norway	004	004	004	004	
Telenor Satellite Services Inc.	USA	001	001	001/405	001	
Stratos Global (Goonhilly LES	UK	002				
Stratos Global (Burum LES)	Netherlands		002	002		
Stratos Global (Auckland LES)	New Zealand				002	
Stratos Global (Burum LES)	Netherlands	012	012	012	012	
Stratos Global (Perth LES)	Australia	222	222	022/222	022/22 2	
Telecom Italia	Italy	555	555	555		
ANNEX3.7 INMARSAT FLEET F77 128 kbps DATA LAND EARTH STATION OPERATORS AND ACCESS CODES

Land Earth Station Operator	Country		Ocean Region						
-		AOR-E	AOR-W	IOR	POR				
Beijing MCN	China			868	868				
France Telecom	France	011	011	011	011				
KDDI	Japan	003	003	003	003				
Korea Telecom	South Korea			006	006				
Stratos Global (Goonhilly	UK	002							
LES									
Stratos Global (Burum LES)	Netherlands		002	002					
Stratos Global (Auckland LES)	New Zealand				002				
Stratos Global (Burum LES)	Netherlands	012	012	012	012				
Stratos Global (Perth LES)	Australia			022					
Telecom Italia	Italy	555	555	555					
Telenor Satellite Services AS	Norway	004	004	004	004				
Telenor Satellite Services	USA	001	001	001/405	001				
Inc.									

ANNEX3.8 INMARSAT FLEET 55 LAND EARTH STATION OPERATORS AND ACCESS CODES

Land Earth Station Operator	Country	Ocean Region							
•		AOR-E	AOR-W	IOR	POR				
Beijing MCN	China	868	868	868	868				
France Telecom	France	011	011	011	011				
KDDI	Japan	003	003	003	003				
Korea Telecom	South Korea			006	006				
OTE	Greece	005	005	005	005				
Telenor Satellite Services AS	Norway	004	004	004	004				
Telenor Satellite Services	USA	001	001	001/405	001				
Inc.									
Stratos Global (Goonhilly LES	UK	002							
Stratos Global (Burum LES)	Netherlands		002	002					
Stratos Global (Auckland LES)	New Zealand				002				
Stratos Global (Burum LES)	Netherlands	012	012	012					
Stratos Global (Perth LES)	Australia				012				
Telecom Italia	Italy	555	555	555					
VSNL	India			306					

ANNEX3.9 INMARSAT MPDS HOME LAND EARTH STATION OPERATORS AND ACCESS CODES 5 JANUARY 2007

INMARSAT MPDS HOME LAND EARTH STATION OPERATORS AND ACCESS CODES 5 JANUARY 2007

Land Earth Station	Country		Ocean Reg	Supporting		
Operator		AOR-E	AOR-W	IOR	POR	RLES
Telenor Satellite Services Inc.	USA	001	001	001	001	Telenor Satellite Services Inc.
Stratos Mobile Networks	Canada	002	002	002	002	Inmarsat RLES
KDDI	Japan	003	003	003	003	Telenor Satellite Services Inc.
Telenor Satellite Services AS	Norway	004	004	004	004	Telenor Satellite Services Inc.
OTE	Greece	005	005	005	005	Telenor Satellite Services Inc.
Korea Telecom	South Korea			006	006	Korea Telecom
France Telecom	France	011	011	011	011	Telenor Satellite Services Inc.
Stratos Mobile Networks	Netherlands	012	012	012	012	Stratos Mobile Networks
Stratos Mobile Networks	Australia	222	222	222	222	Stratos Mobile Networks
Singapore Telecom	Singapore	210	210	210	210	Telenor Satellite Services Inc.
Malaysia Telekom	Malaysia	406	406	406	406	Telenor Satellite Services Inc.
Telecom Italia	Italy	555	555	555		Telecom Italia
Beijing MCN	China			868	868	Telenor Satellite Services Inc.

ANNEX3.10 INMARSAT MPDS REGIONAL LAND EARTH STATION OPERATORS AND ACCESS CODES 5 JANUARY 2007

Land Earth Station Operator	Country						
		AOR-E	AOR-W	IOR	POR		
Inmarsat RLES	UK		All Ocean R	egions			
Telenor Satellite Services Inc.	USA	All Ocean Regions					
Stratos Mobile Networks	Canada						
Xantic	Nederlands		egions				
Xantic	Australia		All Ocean R	egions			
Telecom Italia	Italy	AORE	AORW	IOR			
Korea Telecom	South Korea			IOR	POR		

ANNEX4 INMARSAT – OCEAN REGIONS (AZIMUTH AND ELEVATIONS) Fig. A4.1. Atlantic Ocean Region East Azimuth and Elevation

AOR - E





Fig. A4.2. Atlantic Ocean Region West Azimuth and Elevation

Fig. A4.3. Indian Ocean Region Azimuth and Elevation

IOR







ANNEX 5 INMARSAT ANTENNA POSITIONING

TABLE A5.1: Antenna Positioning.Ship Located NORTH and EAST of selected satellite

Ship's Lat. Degs.		Dif	fere	nce	in d	egre Az El	es l imut evat	ongi h (=	tude upp	bet er f	ween igur fig	shi e)	p an	d sa	tell	ite	
North	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
0	180 90	270 84	270 78	270 72	270 66	270 61	270 55	270 49	270 44	270 38	270 33	270 28	270 22	270 17	270 12	270 07	270 02
5	180 85	225 82	244 77	252 71	257 66	259 60	261 55	263 49	264 43	265 38	266 32	267 27	267 22	268 17	268 11	269 06	269 01
10	180 78	207 77	225 . 73	237 69	244 64	250 59	253 53	256 48	258 43	260 37	262	263 27	264 21	265 16	266 11	267 06	268 01
15	180 72	199 71	214 69	226 65	235 61	241 56	246 51	250 46	253 41	255 36	258 31	260 26	262 21	263 16	265 11	266 06	267 01
20	180 66	194 66	207 64	218 61	227 57	234 53	239 49	244 44	248 39	251 34	254 30	257 25	259 20	262 15	263 10	265 05	267 01
25	180 61	192 60	203 59	212 56	221 53	226 50	234 46	239 41	243 37	247 33	250 28	254 23	256 19	259 14	261 09	264 05	266 00
30	180 55	190 54	199 53	208 51	216 49	223 46	229 42	234 38	239 34	243 30	247 26	251 22	254 17	257 13	26J 09	262 04	265 00
35	180 49	189 49	197 48	205 46	212 44	219 41	225 38	231 35	236 31	240 28	244 24	.248 20	252 16	255 12	258 08	261 04	-
40	180 44	188 43	195 43	203 41	210 39	216 37	222 34	227 31	233 28	237 25	242 21	246 18	250 14	253 10	257 07	260 03	_
45	180 38	187 38	194 37	201 36	207 34	213 33	220 30	225 28	230 25	235 22	239 19	244 16	248 12	252 09	256 05	259	Ē
50	180 33	187 32	193 32	199 31	205 30	211 28	217 26	222 24	228 21	233 19	237 16	242 13	246	250 07	254 04	258 01	2
55	180 27	186 27	192 27	198 26	204 25	210 23	215 22	221 20	226 18	231 16	235 13	240 11	245 08	249 05	253 03	258 00	-
60	180 22	186 22	192 21	197 21	203 20	208 19	214 17	219 16	224 14	229 12	234 10	239 08	243 06	248 04	253 01	-	-
65	180 17	186 17	191 16	196 16	202 15	207 14	212 13	18 12	223 10	228 09	233 07	238 05	242 04	247 02	-	-	-
70	180 11	185 11	191 11	196 11	201 10	206 09	212 09	217 07	222 07	227 05	232 04	237 03	242 01	246 00	-	-	-
75	180 06	185 06	190 06	196 06	201 06	206 05	211 04	216 04	221 03	226 02	231 01	236 00	-	-		-	-
80	180 01	185 01	190 01	195 01	200 01	205 00	210 00	-		-	1.1	-				-	

TABLE A5.2: Antenna Positioning

Ship Located NORTH and WEST of selected satellite

Ship's Lat. Decs.		Dif	fere	nce	in d	legre Az El	es l imut evat	ongi h (=	tude upp (= 1	bet ber f	ween igur fia	shi e) urel	p an	d sa	tell	ite	
North	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
0	180 90	090 84	090 78	090 72	090 66	090 61	090 55	090 49	090 44	090 38	090 33	090 28	090 22	090 17	090 12	090 07	090 02
5	180 85	135 82	116 77	108 71	103 66	101 60	099 55	097 49	095 43	095 38	094 32	093 27	093 22	092 17	092 11	091 06	091 01
10	- 180 - 76	153 77	135 73	123 69	116 64	110 59	107 53	104 48	102 43	100 37	098 32	097 27	096 21	095 16	094 11	093 06	092 01
15	180 72	161 71	146 69	134 65	125 61	119 56	114 51	110 46	107 41	105 36	102 31	100 26	098 21	097 16	095 11	094 06	09) 01
20	180 66	166 66	153 64	142 61	133 57	125 53	121 49	116 44	112 39	109 34	106 30	103 25	101 20	099	097 10	095 05	093 01
25 '	180 61	168 .60	157 59	148 56	139 53	132 50	126 46	121 41	117 37	113 33	110 28	106 23	104 19	101 14	099 09	096 05	094
30	180 -55	170 54	161 53	152 51	144 49	13- 16	131	126 38	121 34	117 30	113 26	109 22	106 17	103 13	100 09	098 04	095 00
35	180 49	171 49	163 48	155 46	148 44	141 41	135 38	129 35	124 31	120 28	116 24	112 20	108 16	105 12	102 08	099 04	-
40	180 44	172 43	165 43	157 41	150 38	144 37	138 34	133 31	127 28	123 25	118 21	114 18	110 14	107 10	103 07	100 03	-
45	°180 38	173 38	166 37	159 36	153 34	147 33	140 30	135 28	130 25	125 22	121 19	116 16	112 12	108 09	104 05	101 02	-
50	180 33	173 32	167 32	161 31	155 30	149 28	143 26	138 24	132 21	127 19	123 16	118 13	114 10	110 07	106 04	102 01	-
55	180 27	174 27	168 27	162 26	156 25	150 23	145 22	139 20	134 18	129 16	125 13	120 11	115 08	111 05	107 03	102 00	
60	180 22	174 22	168 21	163 21	157 20	152 19	146 17	141 16	136 14	131 12	126 10	121 08	117 06	112 04	107 01	-	-
65	180 17	174 17	169 16	164 16	158 15	153 14	148 1?	142 12	137 10	132 09	127 07	122 05	118 04	113 02	-	-	-
70	180 11	175 11	169 11	164 11	159 10	154 09	148 09	143 07	138 07	133 05	128 04	123 03	118 01	114 00	1 1	-	-
75	180 06	175 06	169 06	164 06	159 05	154 05	149 04	144 04	139 03	134 02	129 01	124 00	-	-	-	-	-
80	180 01	175 01	170 01	165 01	160 01	155 00	150 00	-	-	-	-	-	-		-		-

TABLE A5.3: Antenna Positioning

Ship Located SOUTH and EAST of selected satellite

Ship's Lat.	's Difference in degrees longitude between ship and satel Azimuth (= upper figure)						tell.	ite									
South	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
0	360 90	270 84	270 78	270 72	270 66	270 61	270 55	270 49	270 44	270 38	270 33	270 28	270 22	270 17	270 12	270 07	270 02
5	360 84	315 82	296 77	288 71	283 66	281 60	279 55	277 49	276 43	275 38	274 32	273 27	273 22	272 17	272 11	271 06	271 01
10	360 78	333 77	, 315 73	303 69	296 64	290 59	287 53	284 48	282 43	280 37	278 32	277 27	276 21	275 16	274 11	273 06	272 01
15	360	341 71	326 69	314 65	305 61	299 56	294 51	290 46	287 41	285 36	282 31	280 26	278 21	277 16	275 11	274 .)6	273 01
20	360 66	346 66	333 64	322 61	313 57	306 53	301 49	296 44	292 39	289 34	286 30	283 25	281 20	279 15	277 10	275 05	273 01
25	360 61	348 60	337 59	328 56	319 53	312 50	306 46	301 341	297 37	293 33	290 28	286 23	284 19	281 14	279 09	276 05	274 00
30	360 55	350 55	341 53	332 51	324 49	317 46	31. 42	306 38	301 34	297 30	293 26	-89 ,22	286 17	283 13	280 09	278 04	275 00
35	360 49	351 49	343 48	335 46	328 44	321 41	315 38	309 35	304 31	300 28	296 24	292 20	288 16	285 12	282 08	279 04	-
40	360 44	352 43	348 43	337 41	330 39	324 37	318 34	313 31	307 28	303 25	298 21	294 18	290 14	287 10	283 07	280 03	0
45	360 38	353 38	346 37	339 36	333 34	327 33	320 30	315	310 25	305 22	301 19	296 16	292 12	288 09	284 05	281 02	2
50	360 33	353 32	347 32	341 31	335 30	329 28	323 26	318 24	312 21	307 19	303 16	298 13	294 10	290 07	286 04	282 01	-
55	360 27	354 27	348 27	342 26	336 25	330 23	325 22	319 20	314 18	309 16	305 13	300 11	295 08	291 05	287 03	282 00	-
60	360 22	354 22	348 21	343 21	337 20	332 19	326 17	321 16	316 14	311 12	306 10	301 08	297 06	292 04	287 01	-	-
65	360 17	354 17	349 16	344 16	338 15	333 14	328 13	322 12	317 10	312 09	307 07	302 05	298 04	293 02	-	-	-
70	360 11	355 11	349 11	344 11	339 10	334 09	328 09	323 07	318 07	313 05	308 04	303 03	298 01	294 00	-	-	-
75	360 06	355 06	350 06	344 06	339 05	334 05	329 04	324 04	319 03	314 02	309 01	304 00	-	-	-	-	-
80	360 01	355 01	350 01	345 01	340 01	330 00	210 00	-	-	-	-	ī	-	-	ī	-	-

TABLE A5.4: Antenna Positioning

Ship Located SOUTH and WEST of selected satellite

Ship's Lat.		Diff	ferer	ice i	in de	Az:	es lo imutl	ongit n (=	ude uppe	betw er f.	veen igure	ship e)	o ano	l sat	elli	ite	
South	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
0	000 90	090 84	090 78	090 72	090 66	090 61	090 55	090 49	090 44	090 38	090 33	090 28	090 22	090 17	090 12	090 07	090 02
5	000 85	045 82	064 77	072 71	077 66	079 60	081 55	083 49	084 43	085 38	086 32	087 27	087 22	088	088 11	089 06	089 01
10	000 78	027 77	045 73	057 69	064 64	070 59	073 53	076 48	078 43	080 37	082 32	083 27	084 21	085 16	086 11	087 06	088 01
15	000 72	019 71	034 69	046 65	055 61	061 56	066 51	070 46	0 3 41	075 36	078 31	080 26	082 21	083	085 11	086 06	087 01
20	000 66	014	027 64	038 61	047 57	054 53	059 49	064 44	068 39	071 34	074 30	077 25	079 20	081 15	083	085 05	087
25	000	012 60	023 59	032 56	041 53	048 50	054 45	059 41	063 37	067 33	070 28	074 23	076 19	079 14	081 09	084 05	086 00
30	000 55	010 55	019 53	028 51	036 49	043 46	049 42	054 38	059 34	063 30	067 26	071 22	074	077 13	080 09	082 04	085 00
35	000 49	009	017 48	025 46	032 44	039 41	045 38	051 35	056 31	060 28	064 24	068 20	072 16	075 12	078 08	081	-
40	000 44	008 43	015 43	023 41	030 39	036 37	042 34	047 31	053 28	057 25	062 21	066	070 14	073 10	077 07	080 03	1 7
45	000	007 38	014 37	021 36	027 34	033 33	039 30	045 28	050 25	055 22	059 19	064 16	068	072 09	076 05	079 02	-
50	000 33	007 32	013 32	019 31	025 30	031 28	037 26	042 24	048 21	053 19	057 16	062 13	066 10	070 67	074 04	078 01	-
55	000 27	006 27	012 27	018 26	024 25	030 23	035 22	041 20	045 18	051 16	055 13	060	065 08	069 05	073 03	078 00	-
60	000	006 22	012 21	017 21	023 20	028 19	034 17	039 16	044 14	049 12	054 10	059 08	063	068 04	072 01	-	-
65	000 17	006 17	011 16	016 16	022 15	027 14	032 13	038 12	043 10	048 09	053 07	058 05	062 04	067 02		-	-
70	000	005 11	011 11	016 11	021 10	026	032 09	037 07	042 07	047 05	052 04	057 03	062 01	065 01	1	-	-
75	000	005 06	010	016 06	021 05	026 05	031 04	036 04	041 03	046	051 01	056 00	-	-	5	-	-
80	000	005 01	010	015	020	025	030			-	-	-		1 1	-	-	-

ANNEX6

INMARSAT INFORMATIONS

Service (2digits code)	Description	Remarks
00	Automatic	Use this code to make automatic telephone, facsimile and voice data calls using the International Direct Dial (IDD) codes.
11	International Operator	Use this code to obtain information from the International operator of the country within which the CES is situated.
12	International Information	Use this code to obtain information about subscribers located in countries other than that where the CES is located.
13	National Operator	Use this code to obtain information assistance to connect subscribers within the country in which the CES is situated. In some countries which do not have an International Operator, use this code instead of code 11.
14	National Information	Use this code to obtain information about subscribers located in the country where the CES is located
17	Telephone Call Booking	This code should be used to book telephone calls.
20	Access To A Maritime PAD	This code should be used when using a voice-band data modem to access a Maritime Packet assembly/disassembly (PAD) facility in a packet switched public data network. The PAD is accessed via telephone circuits and the prefix 20 should be followed by two additional digits indicating the required data rate.
23	Abbreviated Dialling	This code may be used by some CESs to

TABLE A6.1: Telephone 2-digit Code Services

	(Short Code Selection)	allow users (Short Code Selection) to store abbreviated dialling numbers for their regularly dialled numbers.
31	Maritime Enquiries	This code should be used for special enquiries such as vessel location, authorization, etc.
32	Medical Advice	This code should be used to obtain medical advice. Some CESs have direct connections to a local hospitals.
33	Technical Assistance	This code should be used if you are having technical problems with your SES. Most CESs have technical staff able to assist you.
34	Person-To-Person Call	Use this code to contact the operator for a person-to-person call
35	Collect Call	Use this code to contact the operator for a collect call (Charges payable by the reci[ient of the call)
36	Credit Card Call	Use this code to charge a telephone call to a credit or charge card.
37	Time And Duration	Use this code to find out the time and duration of a call. This will normally be in the form of a short telex at the end of the connection with the time and duration of the call.
38	Medical Assistance	This code should be used if the condition of an ill or injured person on board the vessel requires urgent evacuation ashore or the services of a doctor aboard the vessel. This code will ensure that the call is routed to the appropriate agency/authority ashore to deal with the situation.
39	Maritime Assistance	This code should be used to obtain Maritime assistance if the vessel requires assistance for a situation such as a tow, oil pollution or other assistance, etc

41	Meteorological Reports	This code should be used by weather observing vessels to send their weather observations. In most cases use of this code is free of charge, the national authorities paying the relevant charges.
42	Navigational Hazards And Warnings	This code should be used to report on hazards that may affect the safety of the navigation, such as wrecks, floating objects, buoys and light-vessel out of action, etc.
43	Ship Position Reports	This code provides a connection to an appropriate national or international centre which is collecting information on ship movements for search and rescue or other purposes, e.g. AMVER, AUSREP etc.
6(x)	Administration Specialised Use	For use by Administrations for specialised use. Often used by CESs for leased lines. The "x" digit following the 6 will be allocate on a national basis and would not normally be the same service/leased line for more than one CES.
70	Land Earth Station Databases	This code would normally be used by an CES to allow automatic access to their information services, if available.
91	Automatic Line Testing	This code is normally used for obtaining tones and setting up line levels when installing data modems and such equipment.
92	Commissioning Tests	This code should be used when arranging and carrying out commissioning tests.

Note

The 2 Digits Codes: 32;38;39;41;42;43 are Distress and Safety related codes

TABLE A6.2 INMARSAT -Telex 2-digit Code Services

Service (2digits code)	Description	Remarks
00	Automatic	Use this code to make automatic telex using the International telex country codes.
11	International Operator	Use this code to obtain information from the International operator of the country within which the CES is situated.
12	International Information	Use this code to obtain information about subscribers located in countries other than that where the CES is located.
13	National Operator	Use this code to obtain information assistance to connect subscribers within the country in which the CES is situated. In some countries which do not have an International Operator, use this code instead of code 11.
14	National Information	Use this code to obtain information about subscribers located in the country where the CES is located
15	Radiotelegram service	This code will connect the caller to the radiotelegram service position for the transmission of radiotelegrams via telex.
17	Telephone Call Booking	This code should be used to book telephone calls via telex.
21	Store and Forward (International)	This code is used to gain access to a <i>Store</i> and Forward UNIT (SFU) for international calls.
22	Store and Forward (National)	This code is used to gain access to a <i>Store</i> and Forward UNIT (SFU) for national calls.
23	Abbreviated Dialling (Short Code Selection)	This code may be used by some CESs to allow users (Short Code Selection) to store abbreviated dialling numbers for their regularly dialled numbers.
24	Telex Letter Service	This code is used for directly transmitting a message originated from a MES to a

		selected telegraph office for delivery by
		mail or appropriate means
31	Maritime Enquiries	This code should be used for special
-	1	enquiries such as vessel location,
		authorization, etc
32	Medical Advice	This code should be used to obtain
		medical advice. Some CESs have direct
		connections to a local hospitals.
33	Technical Assistance	This code should be used if you are having technical problems with your SES. Most CESs have technical staff able to assist you.
36	Credit Card Call	Use this code to charge a telex call to a credit or charge card.
37	Time And Duration	Use this code to find out the time and duration of a call. This will normally be in the form of a short telex at the end of the connection with the time and duration of the call. Normally, the telex operator on the vessel should terminate the call with 5 full stops () to obtain this service.
38	Medical Assistance	This code should be used if the condition of an ill or injured person on board the vessel requires urgent evacuation ashore or the services of a doctor aboard the vessel. This code will ensure that the call is routed to the appropriate agency/authority ashore to deal with the situation.
39	Maritime Assistance	This code should be used to obtain Maritime assistance if the vessel requires assistance for a situation such as a tow, oil pollution or other assistance, etc
41	Meteorological Reports	This code should be used by weather observing vessels to send their weather observations. In most cases use of this code is free of charge, the national authorities paying the relevant charges.
42	Navigational Hazards And Warnings	This code should be used to report on hazards that may affect the safety of the navigation such as wrecks, floating objects, buoys and light-vessel out of action, etc.

43	Ship Position Reports	This code provides a connection to an appropriate national or international centre which is collecting information on ship movements for search and rescue or other purposes, e.g. AMVER, AUSREP etc.
6(x)	Administration Specialised Use	For use by Administrations for specialised use. Often used by CESs for leased lines. The "x" digit following the 6 will be allocate on a national basis and would not normally be the same service/lease line for more than one CES.
70	Land Earth Station Databases	This code would normally be used by an CES to allow automatic access to their information services, if available.
91	Automatic Line Testing	This code is normally used for a line check. On telex the following line is normally sent automatically from the CES: THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG 1234567890.
92	Commissioning Tests	This code should be used when arranging and carrying out commissioning tests.

Note

The 2 Digits Codes: 32;38;39;41;42;43 are Distress and Safety related codes

TABLE A6.3: INMARSAT A and INMARSAT B Telex Fault Codes

Fault	Description	Remarks
Code		
ABS	Absent Subscriber	This code is returned by the land-based telex network when the called subscriber's telex terminal is either switched off or is faulty.
DER	Out of order	This code is returned when the path to the called telex terminal is faulty and the called teleprinter fails to respond to WRU signals.
NC	No circuits	This code is used when congestion occurs in the land-based network or switching circuits.
NP	No party	The called party is no longer a telex subscriber (use when an invalid subscriber number is called).
NA	Correspondence not admitted	Used if an unauthorized group call is attempted.
OCC	Subscriber engaged	Called subscriber is engaged (occupied)

NDN	Meaning
ABS	Absent subscriber. The mobile terminal is not logged-in to the ocean region
АСВ	Access barred.
ADR	Addressee refuses to accept message.
ANU	Deleted. The message has not been delivered within an hour and is therefore deleted.
ATD	Attempting to deliver the message.
ВК	Message aborted. Is used when a facsimile or PTSN connection is cleared abnormally.
BUS	Busy.
CCD	Call cut or disconnected.
CI	Conversation impossible.
CIE	The CES ran out of processing/communications capacity to process your message
CNS	Call not started.
DTE	Data terminal equipment. Used when an X.25 subscriber has cleared the connection during the call attempt.
ERR	Error
FAU	Faulty
FMT	Format error.
FSA	Fast select acceptance not subscribed.
IAB	Invalid answerback from destination.
IAM	Was unable to process the address information in the following message:

TABLE A6.4: INMARSAT C Non-Delivery Notification (NDN) failure codes

IDS	Invalid data from ship.
IDT	Input data timeout
IFR	Invalid facility request.
IMS	Message size is invalid, 7932 characters maximum.
IND	Incompatible destination
INH	Was unable to establish the type of message from the following header:
INV	Invalid
ISR	Invalid ship request.
LDE	Maximum acceptable message length or duration has been exceeded.
LEF	Local equipment failure.
LPE	Local procedure error.
MBB	Message broken by higher priority.
МСС	Message channel congestion
MCF	Message channel failure.
МКО	Message killed by operator.
MSO	Machine switched off
NA	Correspondence with this subscriber is not admitted.
NAL	No address line is present.
NC	No circuits
NCH	Subscriber's number has been changed
NDA	There was no delivery attempted.
NFA	No final answerback.
NIA	No initial answerback
NOB	Not obtainable

NOC	No connection.
NP	No party. The called party is not, or is no longer, a subscriber.
NTC	Network congestion.
OAB	Operator aborted.
OCC	Subscriber is occupied.
000	Out of order.
PAD	Packet assembler/disassembler.
PRC	Premature clearing.
PRF	Protocol failure.
RCA	Reverse charging acceptance not subscribed.
REF	There was a failure in the remote equipment.
RPE	Resource limit exceeded.
RPO	Remote procedure error.
SCC	Call completed successfully.
SHE	SES hardware error.
SNF	The satellite network has failed
SPE	SES protocol error.
SUC	Test results being delivered.
ТВҮ	Trunks busy.
TGR	TDM group reset.
TIM	Timeout.
TMD	Too many destinations.
UNK	Unknown. Is used when no other failure codes are suitable

WFA	Wrong final answerback.
WIA	Wrong initial answerback

ANNEX 7 TABLE 7A. *Telex command codes*

CODE	DESCRIPTION	
AMV	Message to be sent to AMVER	
BRK	Radio path to be immediately disconnected	
DATA	Message to be forwarded by the coast station, using	
[number]	data facilities, to the PSTN subscriber number indicated	
DIRTLX	Direct telex connection to the indicated telex	
[number]	subscriber number is required	
FAX [number]	Message to be forwarded as <i>facsimile</i> , via the	
	PSTN, to the subscriber telephone number indicated	
FREQ	Message contains the frequency on which the ship	
	is keeping watch	
HELP	List of the available system facilities is required	
	immediately	
INF	Information is immediately required from the coast	
	station's database	
КККК	Network connection should be cleared whilst	
	maintaining the radio path; further	
	messages/communications should follow immediately	
MAN	Message is to be stored and forwarded manually to	
	a country where an automatic telex	
	connection is not available	
MED	An URGENT medical message follows	
MSG	Message held by the coast station need to be sent	
	immediately	
MULTLX	Direct telex connection to multiple (i.e., at least 2	
[number 1] [number) telex	
2]	numbers is required	

MULTLXA	As MULTLX, but advice of delivery also required	
NAV	Current navigational warning messages required	
OBS	Meteorological message to be sent to the	
	appropriate meteorological organization(s)	
OPR	Connection through a manual assistance operator	
	required	
POS	Message contains the ship's position: assists automatic	
	transmission and reception of messages by the coast	
	station, e.g., for selection of optimum traffic frequency	
	and directional antennas	
RDL	Redial the last telex number indicated by DIRTLX	
RPT [Retransmission of an earlier broadcast message,	
identifier]	sent in FEC mode, is required in ARQ mode; the specific	
-	message must be referenced using the appropriate	
	message identifier	
RTL	Message is to be forwarded as a radio telex letter	
STA	Ship station requires an immediate status report of	
	the store-and-forward messages it has sent;	
	individual messages may be referenced by	
	adding the appropriate message identifier	
STS	Message is to sent via the coast station store-and-forward	
	facility to a specific ship identifier by a SELCALL	
[SELCALL/MMSI]	or MMSI number	
SVC	Service message intended for subsequent manual	
	attention	
TEL [number]	Message to be relayed by voice from the coast	
	station to the telephone number indicated	
TGM	Message to be forwarded as a <i>radio telegram</i>	

TLX [number]	Message is for immediate connection to a	
	store-and-forward facility at the coast station	
TLXA	As TLX, but with advice of delivery to the	
[number]	indicated telex number using normal shore-	
	to-ship procedures	
TRF	Information on current tariff applied by the coast	
	station is required (automatic service only)	
TST	A test message text (e.g., " THE QUICK BROWN	
	FOX JUMPS OVER THE LAZY DOG1234567890 ") is	
	required (automatic service only)	
URG	Emergency use only: the ship station needs to be	
	connected to a manual assistance operator urgently (an	
	audible alarm may be activated at the coast station)	
VBTLX	Message is to be dictated by the coast station to a	
[number]	voicebank (voice messaging) telephone number for	
	subsequent retrieval by the addressee and duplicated by	
	telex to the telex subscriber number following the	
	command code; the telephone number of the voicebank	
	telephone is included in the first line of the message text of	
	the message	
WX	Weather information is required immediately	

TABLE 7B. International Telex Service Codes and Abbreviations

COD	DESCRIPTION
ABS	Subscriber absent/Equipment off
ADD	Please input your international telex number
ANUL	Delete
ВСТ	Broadcast call
BK	Break (I cut off)
BMC	End of message/transmission not receive; message
	cancelled
CFM	Please confirm/I confirm
COL	Collate please/I collate (repetition of, for example,
	figures, mixed figures or sensitive/important information)
CRV	Do you receive well?/I receive well
DER	Out of order
DF	You are in communication with the called
	subscriber
EXM	Connection cleared down (cut off) because
	paper/tape/other recording
FMT	Format error
GA	Go ahead
IAB	Invalid answerback received from called party
IMA	Input message acknowledgement
INF	Called subscriber temporarily unobtainable; call the
	information service
ITD	Input transaction accepted for delivery
ITL	I transmit later
JDE	Office closed because of holiday
LDE	Maximum acceptable duration or length of the

	message has been exceeded
MNS	Minutes
МОМ	Wait/Waiting (a moment)
MUT	Message mutilated
NA	Correspondence with this subscriber is not admitted
NC	No circuits
NCH	Called subscriber number changed
NDN	Non-delivery notification
NI	No line identification available
NP	The called party is not, or is no longer, a subscriber
NR	Indicate your call number/My call number is
OCC	Called subscriber is engaged (occupied)
ОК	Agreed/Do you agree
PPR	Paper
R	Received
RAP	I shall call you back
RDI	Redirected call
REF	Reference of the delivered telex message generated
	by a message conversion facility (CF) for telex-teletex
	interworking
REI	Address validation failure/non-compliant
	answerback received
RPT	Repeat/I repeat
RSBA	Retransmission being attempted
SSSS	Change of alphabet
SVP	Please (s'il vous plait)
T or 5	Stop your transmission! (Repeated until effective)
TAX	What is the charge?/The charge is
TEXT MSG	Please send a text message
THRU	You are in communication with a telex position

ТМА	Maximum number of addresses exceeded
TPR	Teleprinter
TTX	Designation of the conversion facility (CF) for
	telex-teletex interworking
VAL	Validation response
W	Words
WRU	Who is there/Who are you?
XXXXX	Error

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