GMDSS-STCW-GOC-FCC-El-7: Test Pool, Questions and Answers. (Answers, bottom of page) July 2006

KEY TOPIC #001: FUNDAMENTAL CONCEPTS:

001A- What is the fundamental concept of the GMDSS?

a) It is intended to automate and improve emergency communications in the maritime industry.
b) It is intended to automate and improve existing digital selective calling procedures and techniques.
c) It is intended to provide more effective but lower cost commercial communications.
d) It is intended to provide compulsory vessels with a collision avoidance system when they are operating in waters that are also occupied by non-compulsory vessels.

001B- The primary purpose of the GMDSS is?

a) Allow more effective control of SAR situations by vessels.
b) Provide additional shipboard systems for more effective company communications.
c) Automate and improve emergency communications for the world's shipping industry.
d) Effective and inexpensive communications.

001C- What is the basic concept of GMDSS?

a) Search and rescue authorities ashore can be alerted to a Distress situation.
b) Shipping in the immediate vicinity of a ship in Distress will be rapidly alerted.
c) Shoreside authorities and vessels can assist in a coordinated SAR operation with minimum delay.
d) All of these

001D- GMDSS is primarily a system based on?

a) Ship-to-ship Distress communications using MF or HF radiotelephony.
b) VHF digital selective calling from ship to shore.
c) Distress, Urgency and Safety communications carried out by the use of narrow-band direct printing telegraphy.
d) The linking of search and rescue authorities ashore with shipping in the immediate vicinity of a ship in Distress or in need of assistance.

001E- What is the responsibility of vessels under GMDSS?

a) Vessels over 300 gross tons may be required to render assistance if such assistance does not adversely affect their port schedule.
b) Only that vessel, regardless of size, closest to a vessel in Distress, is required to render assistance.
c) Every ship is able to perform those communications functions that are essential for the Safety of the ship itself and of other ships.
d) Vessels operating under GMDSS, outside of areas effectively serviced by shoreside authorities, operating in sea areas A2, and A4 may be required to render assistance in Distress situations.

001F- GMDSS is required for which of the following?

a) All vessels capable of international voyages.
b) Vessels operating outside of the range of VHF coastal radio stations.
c) SOLAS Convention ships of 300 gross tonnage or more.
d) Coastal vessels of less than 300 gross tons.

Key Topic #001 Answer Key: A: a) B: c) C: d) D: d) E: c) F: c).

KEY TOPIC #002: EQUIPMENT SYSTEMS:

002A- What equipment is associated with the land or terrestrial systems?

a) EPIRB
b) VHF-MF-HF
c) Inmarsat-C
d) GPS

002B- What equipment is associated with the space systems?

a) VHF-MF-HF
b) Inmarsat-C
c) NAVTEX
d) SART

002C- What equipment is used in or near the survival craft?

a) NAVTEX
b) Fathometer
c) COSPAS-SARSAT
d) EPIRB

002D- What equipment is programmed to initiate transmission of Distress alerts and calls to individual stations?

a) NAVTEX
b) GPS
c) DSC controller
d) Scanning Watch Receiver

002E- What system provides accurate vessel position information to the GMDSS equipment?

a) GPS
b) COSPAS-SARSAT
c) EPIRB
d) Inmarsat-B

002F- What is the primary equipment for receiving MSI?

a) SART
b) EPIRB
c) NAVTEX
d) Inmarsat-B

Key Topic #002 Answer Key: A: b) B: b) C: d) D: c) E: a) F: c).

KEY TOPIC #003: SEA AREAS:

003A- Which of the following region lies outside Sea Areas A1, A2, and A3?

a) Sea Areas only apply to Inmarsat footprint areas.
b) Sea Area A3-I (Inmarsat coverage) and Sea Area A3-S (HF SITOR coverage).
c) There are no additional Sea Areas.
d) Sea Area A4

003B- What sea area is defined as being within range of a shore-based MF station that provides for continuous DSC alerting?

a) Sea area A2
b) Coastal waters
c) Sea area A3
d) Sea area A1

003C- If a vessel is engaged in local trade and at no point in its voyage travels outside of the range of a VHF shore station with continuous DSC alerting then the vessel is operating in what area?

a) Coastal and international zones
b) Inland and coastal waters
c) Sea areas A1 and A2
d) Sea area A1

003D- What is defined as an area, excluding sea areas A1 and A2, within the coverage of an Inmarsat geostationary satellite in which continuous alerting is available?

a) Ocean Area Regions AOR-E, AOR-W, POR or IOR
b) Sea Area A4
c) Sea Area A3
d) Coastal and Inland Waters

003E- SITOR equipment is a full, partial or alternate carriage requirement under GMDSS for vessels operating in which sea area(s)?

a) A1
b) A1 and A2
c) A3 and A4
d) A1, A2, A3 and A4

003F- What is defined as the area within the radiotelephone coverage area of at least one VHF coast station in which continuous DSC alerting is available as defined by the IMO regulation for GMDSS?

a) Sea Area A1
b) Ocean Area Regions AOR-E, AOR-W, POR or IOR
c) Sea Area A2
d) Coastal and Inland Waters

Key Topic #003 Answer Key: A: d) B: a) C: d) D: c) E: c) F: a).

KEY TOPIC #004: FUNCTIONAL REQUIREMENTS:

004A- Which of the following is a functional or carriage requirement for compulsory vessels?

a) A compulsory vessel must carry at least two (2) FCC licensed GMDSS Radio Operators.
b) A compulsory vessel must satisfy certain equipment carriage requirements that are determined by where the vessel sails.
c) A compulsory vessel must be able to transmit and respond to Distress alerts.
d) All of the above

004B- Which communications functions must all vessels be capable of performing under GMDSS as defined by the International Maritime Organization?

a) Radio Direction Finding.
b) Distress alerting to and from vessels, search and rescue coordination, on-scene communications, signals for locating, Maritime Safety Information, general and bridge-to-bridge communications.
c) Communications in each of the operational ocean areas.
d) All communications possible within the International Safety-Net service.

004C- GMDSS-equipped ships will be required to perform which of the following communications functions?

a) Distress alerting and Maritime Safety Information.
b) Search and Rescue coordination and on-scene communications.
c) Bridge-to-bridge and general radio communications.
d) All of these

004D- What equipment can be used to receive Maritime Safety Information?

a) NAVTEX
b) EGC receiver
c) HF NBDP
d) All of the above

004E- Which of the following is a required GMDSS function?

a) Bridge-to-Bridge communications.
b) Reception of weather map facsimile broadcasts.
c) Both of the above
d) None of the above

004F- Which of the following is a required GMDSS function?

a) Transmit and receive locating signals.
b) Transmit and receive general communications.
c) Both of the above
d) None of the above

Key Topic #004 Answer Key: A: d) B: b) C: d) D: d) E: a) F: c).

KEY TOPIC #005: EQUIPMENT CARRIAGE REQUIREMENTS:

005A- Which statement is true regarding a vessel equipped with GMDSS equipment that will remain in Sea Area A1 at all times?

a) The vessel must be provided with a radio installation capable of initiating the transmission of ship-to-shore Distress alerting from the position from which the ship is normally navigated.
b) VHF DSC alerting may be the sole means of Distress alerting.
c) HF or MF DSC may satisfy the equipment requirement.
d) HF SSB with 2182 kHz automatic alarm generator may satisfy the equipment requirement.

005B- What statement is true regarding the additional equipment carriage requirement imposed for the survival craft of vessels over 500 gross tons?

a) Additional carriage of two radio equipped lifeboats aft.
b) A second radar transponder is required.
c) Four additional portable VHF radios are required.
d) The ability to communicate in all modes with any shore station.

005C- Vessels operating in which sea area(s) are required to carry either Inmarsat or HF equipment or a combination thereof under GMDSS?

a) All sea areas
b) A3
c) A4
d) A1

005D- Within a single sea area, what is the primary reason GMDSS imposes carriage requirements for different radio subsystems?

a) Redundancy in duplicating all operational functions in the event of a system failure.
b) Each subsystem has a specific purpose and capabilities that generally cannot be duplicated by other subsystems.
c) Different radio systems may be used by the various authorities.
d) The ability to communicate in all modes with any of the shore stations.

005E- If operating within Ocean Area A1, and outside of NAVTEX coverage, a GMDSS-equipped vessel must carry?

a) An Inmarsat-B terminal
b) A GPS receiver
c) Equipment capable of maintaining a continuous DSC watch on 2187.5 kHz.
d) Equipment capable of reception of Maritime Safety Information by the Inmarsat enhanced group call system, or HF NBDP.

005F- What is the equipment carriage requirement for survival craft under GMDSS?

a) At least three approved two-way VHF radiotelephones on every passenger ship and cargo ships of 500 gross tons and upwards.
b) At least two approved two-way VHF radiotelephones on every cargo ship between 300-500 gross tons.
c) At least one radar transponder must be carried on every cargo ship of 300-500 gross tons and two transponders (one for each side) of every passenger ship and every cargo ship of 500 gross tons and upward.
d) All of these

Key Topic #005 Answer Key: A: a) B: b) C: b) D: b) E: d) F: d).

KEY TOPIC #006: MAINTENANCE OPTIONS:

006A- Which of the following statements concerning maintenance requirements is false?

a) Compulsory vessels sailing in Sea Areas A1 and A2 must provide any one of the three maintenance options which are duplication of equipment, shore-based, or at-sea maintenance capability.
b) Compulsory vessels sailing in Sea Areas A3 and A4 must provide any two of the three maintenance options which are duplication of equipment, shore-based, or at-sea maintenance capability.
c) If shore-based maintenance is used, maintenance services do not have to be completed or performance verified unless the vessel will be sailing to a non-US port.
d) Equipment warranties do not satisfy GMDSS maintenance requirements.

006B- 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) 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.
c) The "at-sea" maintenance may be waived if the compulsory vessel carries at least three licensed GMDSS Radio Operators.
d) Compulsory vessels operating in Sea Area A4 are required to carry at least one licensed GMDSS Radio Maintainer.

006C- Which of the following is a requirement, under GMDSS, for all vessels over 300 gross tons operating within range of a MF-DSC equipped shore station?

a) Ship's Master or radio officer must be on duty at all times.
b) At least 2nd class Telegraphy license or GMDSS Element 9 is required for the radio officer.
c) Spare parts and maintenance kit for repairs.
d) Only one of the three maintenance options is required.

006D- What statement is generally correct regarding the maintenance requirements for ships under GMDSS?

a) Redundancy of functions of certain equipment will partially meet this requirement.
b) On-board maintenance provided by a person holding a GMDSS Maintainer's license will partially meet the requirements.
c) Shoreside maintenance and scheduled tests and inspections will partially meet this requirement.
d) All of the above

006E- A ship operating in sea area A-3 must have the following provisions for maintenance:

a) Duplication of Equipment
b) Shore Maintenance
c) At Sea Maintenance
d) Any two of the above

006F- A ship operating in sea area A-1 must have the following provisions for maintenance:

a) Shore maintenance
b) Duplication of equipment
c) At Sea Maintenance
d) Any one of the above

Key Topic #006 Answer Key: A: c) B: a) C: d) D: d) E: d) F: d).

KEY TOPIC #007: RADIO SPECTRUM:

007A- What is the frequency range for Medium Frequency?

a) 30-300 kHz
b) 300-3,000 kHz
c) 1,000-10,000 kHz
d) 10-30 MHz

007B- What is the frequency range for High Frequency?

a) 3-30 MHz
b) 300-3,000 kHz
c) 30-300 MHz
d) 10-30 MHz

007C- What is the frequency range for Very High Frequency?

a) 3-30 MHz
b) 300-3,000 kHz
c) 30-300 MHz
d) 10-30 MHz

007D- What is the frequency range for Ultra High Frequency?

a) 3-30 MHz
b) 300-3,000 MHz
c) 30-300 MHz
d) 10-30 MHz

007E- What is the frequency range for Super High Frequency?

a) 30-300 GHz
b) 300-3,000 MHz
c) 30-300 MHz
d) 3-30 GHz

007F- What is the primary frequency range for long distance skywave communications?

a) 3-30 MHz
b) 300-3,000 kHz
c) 30-300 MHz
d) 10-30 MHz

Key Topic #007 Answer Key: A: b) B: a) C: c) D: b) E: d) F: a).

KEY TOPIC #008: FREQUENCY BANDS:

008A- Which of the following systems is most likely to be subject to fading or static interference?

a) HF SITOR
b) Inmarsat
c) Digital Selective Calling on channel 70.
d) VHF ARQ

008B- Which system is most likely to be affected by atmospheric disturbances?

a) MF/HF radiotelephony
b) VHF DSC
c) Inmarsat
d) SafetyNET™

008C- Which of the following systems is least likely to be subject to fading or static interference?

a) HF SITOR
b) Inmarsat
c) MF-HF DSC Controller
d) VHF ARQ

008D- Which system is least likely to be affected by atmospheric disturbances?

a) NAVTEX
b) Inmarsat
c) MF NBDP
d) HF NBDP

008E- Which of the following frequency bands would most likely provide reliable communications between two stations that are 100 miles (160 km) apart?

a) The Low Frequency (LF) band.
b) The Medium Frequency (MF) band.
c) The High Frequency (HF) band.
d) The Very High Frequency (VHF) band.

008F- Which system has the least effective radius of operation?

a) HF SITOR
b) MF NBDP
c) VHF DSC
d) NAVTEX

Key Topic #008 Answer Key: A: a) B: a) C: b) D: b) E: b) F: c).

KEY TOPIC #009: MODULATION-DEMODULATION, AM & FM:

009A- What statement best describes modulation?

a) Imposing intelligence onto a radio carrier signal.
b) Changing mark-space to 1 and 0.
c) Adjusting the frequency to the optimum band for long distance communications.
d) Converting the carrier from a low frequency to a higher frequency.

009B- What statement best describes demodulation?

a) Detuning the receiver to remove interfering signals.
b) Removing atmospheric noise from the signal.
c) Removing the information signal from the carrier.
d) Separating the TELEX signals from the voice signals.

009C- Which statement best describes amplitude modulation?

a) The character data from the terminal is changed to audio tones.
b) The frequency is varied in synchronization with the modulating signal.
c) The information signal changes the amplitude but does not change the carrier frequency.
d) The amplitude of the carrier is changed but there is still only a single frequency being transmitted.

009D- What is the emission designation for MF-HF voice signals?

a) F1B
b) J3E
c) J2B
d) F3E

009E- Which statement best describes frequency modulation?

a) Both the amplitude and frequency are changed by the modulating signal.
b) The frequency is changed by the information signal and the amplitude remains unchanged.
c) Frequency modulation is subject to interference by atmospheric noise.
d) High level mixing of the final amplifier signal and the information signal.

009F- What is the emission designation for VHF-FM?

a) F3C
b) J2B
c) F3E
d) AME

Key Topic #009 Answer Key: A: a) B: c) C: c) D: b) E: b) F: c).

KEY TOPIC #010: CARRIER & SIDEBANDS:

010A- Which of the following statements describes the carrier?

a) The carrier consists of at least 3 separate but closely spaced frequencies.
b) The carrier is a Radio Frequency (RF) signal that is modified to carry intelligence.
c) The carrier is used to modulate the information signal.
d) There are always sidebands on either side of the carrier.

010B- How many sidebands are present in a standard A.M. signal?

a) One
b) Four
c) Two
d) Three

010C- How many sidebands are present in the J3E mode?

a) Two sidebands and a carrier.
b) One upper sideband.
c) One lower sideband.
d) Two carriers and one sideband.

010D- What is the signal transmitted in H3E mode?

a) Two sidebands, upper and lower.
b) A reduced carrier and the lower sideband.
c) A full carrier and the upper sideband.
d) A full carrier and both upper and lower sidebands.

010E- What is the signal transmitted in J2B mode?

a) A full carrier and one sideband.
b) A full carrier and two sidebands.
c) An upper sideband of 2 alternating tones.
d) An upper sideband of a single tone switched on and off.

010F- Which of the following statements is true?

a) An RF carrier is always required to carry the information.
b) There is only a single tone used in J2B mode.
c) Both of the above
d) None of the above

Key Topic #010 Answer Key: A: b) B: c) C: b) D: c) E: c) F: d).

KEY TOPIC #011: CHANNEL SPACING:

011A- What is the channel spacing for MF-HF voice frequencies?

a) 2.8 kHz
b) 500 Hz
c) 3.5 kHz
d) 3 kHz

011B- What is the channel spacing for SITOR frequencies?

a) 500 Hz
b) 170 Hz
c) 300 Hz
d) 3 kHz

011C- 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) NBDP/SITOR
b) SSB Voice
c) Both of the above
d) None of the above

011D- How many SITOR signals can occupy the space of one voice signal?

a) 2
b) 4
c) 6
d) 10

011E- Which emission mode occupies the most bandwidth?

a) J2B
b) J3E
c) F1B
d) F3E

011F- Which mode occupies the least bandwidth?

a) H3E
b) J2B
c) AME
d) F3E

Key Topic #011 Answer Key: A: d) B: a) C: a) D: c) E: d) F: b).

KEY TOPIC #012: ANTENNAS:

012A- A vertical (whip) antenna has a radiation pattern best described by?

a) A figure eight
b) A cardioid
c) A circle
d) An ellipse

012B- Which of the following statements about a VHF vertical antenna is true?

a) The longer a VHF antenna the greater the signal gain.
b) The radiation pattern is a cardioid.
c) Maximum radiation is directly overhead.
d) The radiation pattern is a figure eight.

012C- A vertical quarter wave antenna with a good ground connection will:

a) Radiate omni-directionally
b) Not function due to being grounded.
c) Only be used in Satellite communications.
d) None of these

012D- What is the most common type of antenna for GMDSS MF-HF?

a) Horizontally polarized whip antenna
b) Long wire antenna
c) Vertical whip
d) None of the above

012E- What is the most common type of antenna for GMDSS VHF?

a) Horizontally polarized circular antenna
b) Long wire antenna
c) Both of the above
d) None of the above

012F- What advantage does a vertical whip have over a long wire?

a) It radiates more signal fore and aft.
b) It radiates equally well in all directions.
c) It radiates a strong signal vertically.
d) None of the above

Key Topic #012 Answer Key: A: c) B: a) C: a) D: c) E: d) F: b).

KEY TOPIC #013: INSPECTIONS & EXEMPTIONS:

013A- How often must a compulsory vessel's GMDSS radio station be inspected?

a) Annually, by the U.S. Coast Guard.
b) Annually, by the FCC or designated authority.
c) Annually, by the FCC, and every six months if the vessel sails outside of Sea Areas A1 and A2.
d) The FCC's annual inspection may be waived if and only if monthly inspections are performed by the vessel's on-board GMDSS Radio Maintainer.

013B- What periodic inspection is required in order to remain in compliance with the regulations regarding GMDSS ship radio station inspections?

a) U.S. Coast Guard annual inspection.
b) An inspection at least once every 12 months by the FCC or a holder of a GMDSS Maintainers license.
c) FCC inspection every five years.
d) Periodic inspections not required if on board maintainers perform routine preventive maintenance.

013C- Which statement is false regarding a GMDSS-equipped ship?

a) A conditional or partial exemption may be granted, in exceptional circumstances, for a single voyage outside the sea area for which the vessel is equipped.
b) Ships must have the required equipment inspected at least once every five years.
c) The regulations apply to all passenger ships regardless of size and cargo ships of 300 gross tons and upwards.
d) Ships must carry at least two persons holding a GMDSS Radio Operator's license for Distress and Safety radio-communications purposes.

013D- Which statement is false regarding a GMDSS equipped ship?

a) A conditional or partial exemption may not be granted, in exceptional circumstances, for a single voyage outside the sea area for which the ship is equipped.
b) Ships must have the required equipment inspected at least once every 12 months.
c) The regulations apply to all passenger ships regardless of size and cargo ships of 300 gross tons and upwards.
d) Ships must carry at least two persons holding a GMDSS Radio Operator's license for Distress and Safety radio-communications purposes.

013E- During an annual FCC inspection:

a) All required documents and publications might have to be produced.
b) Licensed GMDSS operators may be required to demonstrate equipment competencies.
c) All required equipment must be fully operational.
d) All of the above

013F- Foreign governments or administrations may inspect the radio installation:

a) When the ship's station license cannot be produced without delay.
b) When irregularities are observed.
c) Both of the above
d) None of the above

Key Topic #013 Answer Key: A: b) B: b) C: b) D: a) E: d) F: c).

KEY TOPIC #014: REQUIRED DOCUMENTS & PUBLICATIONS:

014A- Which of the following references should the GMDSS Radio Operator consult for information on the proper operation of equipment?

a) ITU List of Equipment Operations.
b) The manufacturer's operator manuals.
c) 47 CFR Part 80
d) Information is available through SafetyNET™ channels.

014B- Where can GMDSS regulations pertaining specifically to U.S.-flag vessels be found?

a) These are located in CCIR #476.
b) These are located in FCC Part 83.
c) These are published only by the U.S. Coast Guard.
d) These are located in 47 CFR Part 80.

014C- What should the GMDSS Radio Operator consult to review the proper procedures to be followed in Distress situations under GMDSS?

a) IMO Recommendations.
b) The manufacturer's instruction manuals.
c) Part 90 of the FCC Rules and Regulations.
d) Part 80, Subpart W of the FCC Rules and Regulations.

014D- Which of the following documents are required by GMDSS for vessels on international voyages (other than the Great Lakes)?

a) A copy of the IMO master plan of shore-based facilities.
b) Station logs
c) 47 CFR Part 80 FCC rules and regulations.
d) All of these

014E- Which of the following documents are required by Part 80 of the FCC rules for vessels on international voyages (other than the Great Lakes)?

a) Appropriate Safety Convention Certificate.
b) List of Call Signs and Numerical Identities. (ITU List VII-A)
c) List of Radiodetermination and Special Service Stations. (ITU List VI)
d) All of these

014F- What publication/s should a GMDSS Operator consult regarding the proper set-up and operation of vessel equipment?

a) ITU Publications
b) The manufacturer's instruction manuals.
c) Part 90 of the FCC Rules and Regulations.
d) Code of Federal Regulations, Title 47, Part 80, Subpart W.

Key Topic #014 Answer Key: A: b) B: d) C: d) D: d) E: d) F: b).

KEY TOPIC #015: MAINTENANCE:

015A- Which of the following maintenance functions is not the responsibility of the GMDSS Radio Operator?

a) Visual inspection of equipment, including the antenna and associated components.
b) Perform on-the-air verification checks.
c) Perform scheduled testing of the battery's charged condition.
d) Aligning the power output stage for maximum power.

015B- When may a compulsory vessel not be allowed to leave port?

a) When the vessel is in an over-carriage condition.
b) When the vessel has arranged for both duplication of equipment AND shore-based maintenance.
c) When the vessel has replaced a required piece of GMDSS-related equipment but its performance has not been verified or logged.
d) When the vessel is carrying only two licensed GMDSS Radio Operators and is capable of performing all required functions.

015C- Which statement is false regarding the maintenance of GMDSS equipment at sea?

a) The GMDSS maintainer may not be the person designated to have primary responsibility for radio-communications during Distress incidents even if licensed as an operator.
b) Ships must carry at least one person who qualifies as a GMDSS maintainer for the maintenance and repair of equipment if the at-sea maintenance option is selected.
c) All at-sea maintenance and repairs must be performed by, or under the supervision of a person holding a GMDSS Maintainer license.
d) The GMDSS maintainer may be the person responsible for ensuring that the watches are properly maintained and that the proper guard channels and the vessel's position are entered into the DSC equipment.

015D- Which of the following service or maintenance functions may NOT be performed by the holder of a GMDSS Radio Operator License?

a) Reset tripped circuit breakers or replace defective fuses.
b) Routine battery maintenance if used as part of the GMDSS station.
c) Any adjustments or maintenance that may affect the proper operation of the station.
d) Replacement of consumable items such as paper, ribbons, etc.

015E- What are the conditions, under GMDSS, whereby a ship is NOT allowed to depart from any port?

a) The vessel is not capable of performing all required Distress and Safety functions.
b) The vessel is carrying more than the required number of qualified GMDSS radio operators.
c) The vessel has a temporary waiver of its radio license and Safety Certificate.
d) The vessel is not carrying a GMDSS radio maintainer, but has provided for shoreside maintenance plus duplication of equipment if required.

015F- What determines the spares and maintenance materials requirements for the SITOR equipment under GMDSS?

a) The recommendations of the manufacturer.
b) 47 CFR Part 80
c) IMO Circular "Equipment Spares".
d) The GMDSS Maintainer's requirements.

Key Topic #015 Answer Key: A: d) B: c) C: a) D: c) E: a) F: a).

KEY TOPIC #016: LICENSE & PERSONNEL REQUIREMENTS:

016A- Which of the following is the minimum license requirement of a GMDSS Radio Operator?

a) Holding the Marine Radio Operator Permit is a pre-requisite before the GMDSS Radio Operator Endorsement can be obtained.
b) Holding the General Radiotelephone Operator License with RADAR endorsement is sufficient.
c) Holding a valid GMDSS Radio Operator license is sufficient.
d) Holding either the General Radiotelephone Operator License or the First or Second Class Radiotelegraph license with GMDSS Radio Maintainer's endorsement is sufficient.

016B- Which of the following statements concerning GMDSS Radio Operator requirements is false?

a) Each compulsory vessel must carry at least two licensed GMDSS Radio Operators at all times while at sea.
b) 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.
c) 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.
d) 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.

016C- What is the minimum operator license required to perform or supervise the performance of at-sea adjustments, servicing or maintenance which may affect the proper operation of the GMDSS station?

a) Marine Radio Operator Permit.
b) General Radiotelephone Operator license and Radar endorsement.
c) Designated maintainer possessing a GMDSS Radio Operator license.
d) GMDSS Radio Maintainer's license.

016D- Which statement is false regarding the radio operator requirements for a GMDSS-equipped ship station?

a) One of the qualified GMDSS radio operators must be designated to have primary responsibility for radio-communications during Distress incidents.
b) A qualified GMDSS radio operator, and a qualified backup, must be designated to perform Distress, Urgency and Safety communications.
c) Maintaining a record of all incidents connected with the radio-communications service that appear to be of importance to Safety of life at sea is not required.
d) While at sea, all adjustments or radio installations, servicing or maintenance of such installations that may affect the proper operation of the GMDSS station must be performed by, or under the supervision of, a qualified GMDSS radio maintainer.

016E- What are the vessel equipment and personnel requirements of GMDSS?

a) Two licensed GMDSS radio operators.
b) Equipment carriage requirements.
c) Distress alerting and response.
d) All of these

016F- What is the minimum requirement of a GMDSS radio operator?

a) Marine Radio Operator Permit and GMDSS Endorsement.
b) General Radiotelephone Operator license and Radar endorsement.
c) GMDSS Radio Operator license.
d) General Radiotelephone license or First or Second Class Radiotelegraph license with GMDSS Radio Maintainer's endorsement.

Key Topic #016 Answer Key: A: c) B: c) C: d) D: c) E: d) F: c).

KEY TOPIC #017: RESERVE SOURCE OF ENERGY:

017A- Which statement is false regarding the GMDSS requirement for ship sources of energy?

a) At all times while the vessel is at sea, a sufficient supply of electrical energy to operate the radio installations and charge any batteries which may be part of the reserve source of energy is required.
b) The reserve sources of energy need to supply independent MF and HF radio installations at the same time.
c) An uninterruptible power supply or other means of ensuring a continuous supply of electrical power to all GMDSS equipment that could be affected by normal variations and interruptions of ship's power is required.
d) If an uninterrupted vessel position is required for the proper performance of a GMDSS console -- a means must be provided to ensure this happens in the event of failure of the main or emergency source of energy.

017B- What is the meaning of “Reserve Source of Energy”?

a) 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.
b) High caloric value items for lifeboat, per SOLAS regulations.
c) Diesel fuel stored for the purpose of operating the powered survival craft for a period equal to or exceeding the U.S.C.G. and SOLAS requirements.
d) None of these

017C- In the event of failure of the main and emergency sources of electrical power -- what is the term for the source required to supply the GMDSS console with power for conducting Distress and other radio-communications?

a) Emergency power
b) Reserve source of energy
c) Ship's emergency diesel generator
d) Ship's standby generator

017D- What are the characteristics of the Reserve Source of Energy under GMDSS?

a) Supplies independent HF and MF installations at the same time.
b) Cannot be independent of the propelling power of the ship.
c) Must be incorporated into the ship's electrical system.
d) Must be independent of the ship's electrical system when the RSE is needed to supply power to the GMDSS equipment.

017E- What is the requirement for emergency and reserve power in GMDSS radio installations?

a) An emergency power source for radio communications is not required if a vessel has proper reserve power (batteries).
b) A reserve power source is not required for radio communications.
c) Only one of the above is required if a vessel is equipped with a second 406 EPIRB as a backup means of sending a Distress alert.
d) All newly constructed ships under GMDSS must have both emergency and reserve power sources for radio communications.

017F- Which of the following terms is defined as a back-up power source that provides power to radio installations for the purpose of conducting Distress and Safety communications when the vessel's main and emergency generators cannot?

a) Reserve Source of Energy (RSE)
b) Emergency Diesel Generator (EDG)
c) Reserve Source of Diesel Power (RSDP)
d) Emergency Back-up Generator (EBG)

Key Topic #017 Answer Key: A: b) B: a) C: b) D: d) E: d) F: a).

KEY TOPIC #018: EQUIPMENT TESTING:

018A- Under GMDSS, a compulsory VHF-DSC radiotelephone installation must be tested at what minimum intervals at sea?

a) Daily
b) Annually, by a representative of the FCC.
c) At the annual SOLAS inspection.
d) Monthly

018B- Testing of a compulsory radiotelephone station should be done?

a) Into an artificial antenna.
b) May be accomplished by using the radiotelephone for normal business.
c) On 2182 kHz and must be heard clearly under normal conditions at a range of 150 nautical miles.
d) Either a) or b)

018C- While underway, how frequently is the DSC controller required to be tested?

a) Once a day
b) Once a week
c) Twice a week
d) Once a month

018D- At sea, all required equipment (other than Survival Craft Equipment) must be proven operational by?

a) Daily testing
b) By either a) or c)
c) Operational use of the equipment.
d) Testing at least every 48 hours.

018E- The best way to test the MF-HF NBDP system is?

a) Make a radiotelephone call to a coast station.
b) Initiate an ARQ call to demonstrate that the transmitter and antenna are working.
c) Initiate an FEC call to demonstrate that the transmitter and antenna are working.
d) Initiate an ARQ call to a Coast Station and wait for the automatic exchange of answerbacks.

018F- The best way to test the Inmarsat-C terminal is?

a) Send a message to a shore terminal and wait for confirmation.
b) Compose and send a brief message to your own Inmarsat-C terminal.
c) Send a message to another ship terminal.
d) If the "Send" light flashes, proper operation has been confirmed.

Key Topic #018 Answer Key: A: a) B: d) C: a) D: b) E: d) F: b).

KEY TOPIC #019: WATCHKEEPING:

019A- A vessel certified for service in Sea Area A3 is required to maintain a watch on?

a) VHF Channel 70
b) MF Frequency 2187.5
c) HF on 8414.5 kHz and one other HF DSC frequency.
d) All of these

019B- A vessel certified for service in Sea Area A-2 is required to maintain watch on?

a) 2174.5 kHz
b) 2187.5 kHz
c) 2182.0 kHz
d) 2738.0 kHz

019C- 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) 2 MHz MF DSC, 8 MHz DSC, VHF Ch-16 and 1 other HF DSC.
c) 8 MHz HF DSC, 1 other HF DSC, 2 MHz MF DSC and VHF Ch-70.
d) None of the above

019D- Proper watchkeeping includes the following:

a) All required frequencies are being monitored in the proper mode.
b) After silencing an alarm all displays and/or printouts are read.
c) Notifying the Master of any Distress alerts.
d) All of the above

019E- Proper watchkeeping includes the following:

a) Understanding the GMDSS console's normal operational indicators.
b) Maintaining a proper GMDSS radio station log.
c) Responding to and comprehending alarms.
d) All of the above

019F- Which is true concerning a required watch on VHF Ch-16.

a) It is compulsory at all times while at sea until further notice, unless the vessel is in a VTS system.
b) When a vessel is in an A1 sea area and subject to the Bridge-to-Bridge act and in a VTS system, a watch is not required on Ch-16 provided the vessel monitors both Ch-13 and VTS channel.
c) It is always compulsory in sea areas A2, A3 and A4.
d) All of the above

Key Topic #019 Answer Key: A: d) B: b) C: c) D: d) E: d) F: d).

KEY TOPIC #020: LOGKEEPING:

020A-Which of the following statements are true?

a) GMDSS Radio Logs are required to contain entries pertaining to all incidents connected with the radio-communications service that appear to be of importance to the Safety of life at sea.
b) All Distress communications must be entered in the GMDSS radio log.
c) Both of the above
d) None of the above

020B-Which of the following statements are true?

a) Key letters or abbreviations may not be used in GMDSS Radio Logbooks under any circumstances.
b) Urgency communications do not need to be entered in the GMDSS radio log.
c) Both of the above
d) None of the above

020C- Where should the GMDSS radio log be kept on board ship?

a) Captain's office
b) Sea cabin
c) At the GMDSS operating position.
d) Anywhere on board the vessel.

020D- How long must the radio log be retained on board before sending it to the shoreside licensee?

a) At least one year after the last entry.
b) At least two years after the last entry.
c) At least 90 days after the last entry.
d) At least 30 days after the last entry.

020E- How long must the radio log be archived by the licensee?

a) Two years if there is no Distress or Urgency entries.
b) Three years if there are any Distress or Urgency entries.
c) Both of the above
d) None of the above

020F- Which of the following logkeeping statements is true?

a) Entries relating to pre-voyage, pre-departure and daily tests are required.
b) Both a) and c)
c) A summary of all Distress communications heard and Urgency communications affecting the station's own ship. Also, all Safety communications (other than VHF) affecting the station's own ship must be logged.
d) Routine daily MF-HF and Inmarsat-C transmissions do not have to be logged.

Key Topic #020 Answer Key: A: c) B: d) C: c) D: d) E: c) F: b).

KEY TOPIC #021: CALL SIGNS & SELCALLS:

021A- A typical call sign for a large container ship under U. S. flag would be:

a) WBX1469
b) KBZY
c) NADN
d) KPH

021B- What would the number 1090 indicate?

a) A ship MMSI number.
b) A coast station MMSI number.
c) A coast station SELCALL number.
d) A ship station SELCALL number.

021C- Which one of the following is a ship station SELCALL?

a) 11243
b) 1104
c) 1502352
d) 0230364973

021D- Which of the following is the call sign for a U.S.C.G. coast station?

a) NERK
b) KPH
c) NMN
d) WCC

021E- What type of station would be assigned the call sign WAB2174?

a) Container ship
b) Passenger ship
c) Tug boat
d) Bulk Tanker

021F- What number will a ship station use to identify itself using SITOR?

a) Four digit SELCALL.
b) Five digit SELCALL or 9 digit SELCALL number identical to MMSI.
c) 9 digit Inmarsat-B I. D. number.
d) 9 digit Inmarsat-C I.D. number.

Key Topic #021 Answer Key: A: b) B: c) C: a) D: c) E: c) F: b).

KEY TOPIC #022: MMSI: MID & SHIP STATION I.D. NUMBERS:

022A- What is the MID?

a) Mobile Identification Number
b) Maritime Identification Digits
c) Marine Indemnity Directory
d) Mobile Interference Digits

022B- How many digits are in the MID (Maritime Identification Digits)?

a) 7
b) 9
c) 3
d) 10

022C- What does the MID (Maritime Identification Digits) signify?

a) Port of registry
b) Nationality
c) Gross tonnage
d) Passenger vessel

022D- Which of the following numbers indicates a U.S. flag ship station?

a) 036627934
b) 243537672
c) 338426791
d) 003382315

022E- Which of the following MMSI numbers indicates a U.S. flag ship station?

a) 430326890
b) 303236824
c) 033609991
d) 257326819

022F- Which of the following numbers indicates a ship station MMSI?

a) 003372694
b) 623944326
c) 030356328
d) 3384672

Key Topic #022 Answer Key: A: b) B: c) C: b) D: c) E: b) F: b).

KEY TOPIC #023: MMSI: GROUP & COAST STATION I.D. NUMBERS:

023A- A DSC call is received from a station with a MMSI number of 003669991. Which of the following types of stations is it from?

a) A vessel operating in Sea Area A3.
b) A group ship station
c) A U.S. coast station
d) An Intercoastal vessel

023B- A valid MMSI number for a DSC call to a specific group of vessels is:

a) 003664523
b) 030327931
c) 338462941
d) 003036483

023C- MMSI 030346239 indicates what?

a) Inmarsat-C I.D. number
b) Coast station
c) Group MMSI
d) Ship station

023D- Which of the following statements concerning MMSI is true?

a) Coast station MMSI numbers have 9 digits starting with 4.
b) All MMSI numbers are 9 digits and contain an MID.
c) Ship station MMSI numbers can be 7 digits or 9 digits depending on the Inmarsat terminal.
d) Group MMSI numbers must begin with 2 zeros.

023E- Which of the following statements concerning MMSI is true?

a) All Coast Station MMSI must begin with 2 zeros.
b) The first 3 digits of a ship MMSI comprise the MID.
c) A group call must begin with a single zero followed by the MID.
d) All of the above

023F- Which of the following statements concerning MMSI is true?

a) All ship station MMSI must begin with a single zero and include the MID.
b) All group station MMSI must begin with the MID.
c) All Coast Station MMSI must be 9 digits and begin with 2 zeros followed by the MID.
d) None of the above

Key Topic #023 Answer Key: A: c) B: b) C: c) D: b) E: d) F: c).

KEY TOPIC #024: INMARSAT MOBILE NUMBERS FOR "B" TERMINALS:

024A- Which of the following would indicate an Inmarsat-B terminal?

a) A 9 digit number beginning with the MID.
b) A 7 digit number
c) A 9 digit number always starting with 3.
d) A 9 digit number always starting with 4.

024B- Which of the following would indicate an Inmarsat-B terminal?

a) 003662517
b) 436682011
c) 325468325
d) 1500241

024C- Which of the following would indicate an Inmarsat-B terminal?

a) 150036
b) 366832922
c) 430364290
d) 1502460

024D- Which of the following would indicate an Inmarsat-B terminal?

a) 003668202
b) 436682433
c) 325468263
d) 1500270

024E- Which of the following would indicate an Inmarsat-B terminal?

a) 150036
b) 366632824
c) 430363275
d) 1502460

024F- Which of the following would indicate an Inmarsat-B terminal?

a) A 9 digit number always starting with 3.
b) A 12 digit number starting with the MID.
c) A 9 digit number ending with the MID.
d) A 9 digit number always starting with 4.

Key Topic #024 Answer Key: A: c) B: c) C: b) D: c) E: b) F: a).

KEY TOPIC #025: INMARSAT MOBILE NUMBERS FOR "C" TERMINALS:

025A- You receive a TELEX with the senders I.D. of 433863491. What type of terminal sent this message to your vessel?

a) Inmarsat-C
b) Land TELEX terminal
c) Inmarsat-B
d) Inmarsat-M

025B- You receive a TELEX with the senders I.D. of 336640927. What type of terminal sent this message to your vessel?

a) Inmarsat-C
b) Land TELEX terminal
c) Inmarsat-B
d) Inmarsat-M

025C- Which of the following would indicate an Inmarsat-C terminal?

a) 003668202
b) 436682433
c) 325468263
d) 1500270

025D- Which of the following would indicate an Inmarsat-C terminal?

a) 150036
b) 366294824
c) 430346275
d) 1502690

025E- Which of the following would indicate an Inmarsat-C terminal?

a) 003662517
b) 436682011
c) 325468325
d) 1500241

025F- Which of the following would indicate an Inmarsat-C terminal?

a) A 9 digit number beginning with the MID.
b) A 7 digit number
c) A 9 digit number always starting with 3.
d) A 9 digit number always starting with 4.

Key Topic #025 Answer Key: A: a) B: c) C: b) D: c) E: b) F: d).

KEY TOPIC #026: DSC FORMAT & INFO SENT:

026A- What is first sent by all MF-HF DSC transmissions?

a) Distress alert character
b) A string of dots to stop the scan receiver.
c) Priority of transmission character.
d) Ship's position

026B- VHF-DSC transmissions are encoded and transmitted in what emission mode?

a) H3E
b) F1B/J2B
c) A3E
d) None of the above

026C- When sending a DSC call:

a) Vessel's position will automatically be sent.
b) Vessel's position will automatically be sent if the vessel is sending a "Distress Hot Key" alert.
c) Vessel's MMSI will indicate its ocean region.
d) None of the above

026D- DSC transmissions are encoded:

a) Using J3E mode for proper follow-on communications.
b) Using a special digital format.
c) Using F1B mode to ensure proper reception.
d) Using J2B mode for correct transmission.

026E- DSC transmissions are received:

a) Using voice or TELEX modes as appropriate.
b) Using J3E or H3E modes as appropriate.
c) Using digital decoding by the DSC controller.
d) Using F1B and/or J2B decoding by the transceiver.

026F- Properly formatted DSC transmissions can request which of the following emissions for follow on communications?

a) J3E/H3E TELEX emissions
b) F1B/J2B voice emissions
c) J3E/H3E voice emissions
d) None of the above

Key Topic #026 Answer Key: A: b) B: d) C: b) D: b) E: c) F: c).

KEY TOPIC #027: DSC OPERATIONS:

027A- Which of the following statements concerning DSC equipment is true?

a) The GMDSS Radio Operator is responsible for properly selecting HF DSC guard channels.
b) All equipment must be type accepted.
c) The vessel's navigational position must be updated, either automatically or manually, no less often that every four (4) hours.
d) All of the above

027B- What is the action that a GMDSS Radio Operator should take when a DSC Distress alert is received?

a) No action is necessary, as the DSC control unit will automatically switch to the NBDP follow-on communications frequency.
b) The Operator should immediately set continuous watch on the radiotelephone frequency that is associated with frequency band on which the Distress alert was received.
c) The Operator should immediately set continuous watch on VHF channel 70.
d) The Operator should immediately set continuous watch on the NBDP frequency that is associated with frequency band on which the Distress alert was received.

027C- 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 abort the transmission and set off an audible alarm that must be manually reset.
b) 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.
c) It will initiate the DSC Distress alert, and default information will automatically be transmitted.
d) 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.

027D- A DSC Distress alert:

a) Must always be sent on VHF Ch-70.
b) Must always be sent on MF 2 MHz plus one other HF DSC frequency.
c) Will always be sent on one or more of the DSC Distress frequencies.
d) Must always be sent on VHF Ch-70, then 2 MHz MF then 8 MHz HF.

027E- In all cases, the transmit frequency of a MF/HF console DSC Distress alert:

a) Will go out first on 2187.5 kHz.
b) Will go out on 8 MHz and 2 MHz and one other DSC Distress frequency.
c) It depends upon operator DSC Call set up entries.
d) None of the above

027F- DSC relays of Distress alerts by vessels:

a) Should be done for all Distress alerts.
b) Should be transmitted to ships involved in Distress traffic.
c) Should be avoided, however after repeated alerts, should be relayed to a Coast Station nearest the Distress incident.
d) Are the best means to provide for a relay of Distress communications.

Key Topic #027 Answer Key: A: d) B: b) C: c) D: c) E: c) F: c).

KEY TOPIC #028: DSC FREQUENCIES:

028A- Which of the following is not a DSC watch frequency?

a) 2187.5 kHz
b) 6312 kHz
c) 2182 kHz
d) 12577 kHz

028B- Which of the following channels and modes should be used when initiating a Distress alert transmission?

a) Ch-6 DSC
b) Ch-6 Radiotelephony
c) Ch-13 Radiotelephony and Ch-16 DSC
d) Ch-70 DSC

028C- How many total frequencies are available for DSC Distress alerting?

a) One
b) Two
c) Five
d) Seven

028D- Which of the following watches must a compulsory vessel maintain when sailing in Sea Area A1?

a) A continuous DSC watch on 8414.5 kHz plus one other HF DSC frequency.
b) A continuous DSC watch on 2187.5 kHz.
c) A continuous DSC watch on Ch-16.
d) A continuous DSC watch on Ch-70.

028E- Which of the following are the MF/HF DSC Distress watch frequencies

a) 2177.5, 4210.0, 6314.0, 8416.5 12579.0, 16806.5
b) 2182.0, 4125.0, 6215.0, 8291.0, 12290.0, 16420.0
c) 2187.5, 4207.5, 6312.0, 8414.5, 12577.0, 16804.5
d) 2174.5, 4177.5, 6268.0, 8376.5, 12520.0, 16695.0

028F- How many HF DSC Distress watch channels must be guarded by a compulsory vessel underway.

a) 1
b) 2
c) 3
d) 4

Key Topic #028 Answer Key: A: c) B: d) C: d) D: d) E: c) F: b).

KEY TOPIC #029: SENDING A DISTRESS ALERT:

029A- What is usually the first step for a GMDSS Radio Operator to take when initiating a Distress priority message via Inmarsat?

a) By dialing the correct code on the telephone remote unit.
b) By pressing a "Distress Button" or "Distress Hot Key(s)" on the equipment.
c) By contacting the CES operator and announcing a Distress condition is in existence.
d) By contacting the CES operator using the radiotelephone Distress procedure "Mayday"... etc.

029B- Which of the following statements is true regarding Distress alerting under GMDSS?

a) The Distress alert should identify the station in Distress and its position & time of position update. Also, the alert may include the nature of the Distress, the type of assistance required, or the course and speed of the mobile unit.
b) Ship to shore Distress alerts are used to alert other ships in port of navigational hazards.
c) Ship-to-ship Distress alerts are used to alert other ships in the vicinity of navigational hazards and bad weather.
d) The vessel nearest to the emergency must notify the Coast Guard before leaving the vicinity.

029C- If a GMDSS Radio Operator initiates a DSC Distress transmission but does not insert a message, what happens?

a) The transmission is aborted and an alarm sounds to indicate this data must be provided by the operator.
b) The transmission is not initiated and "ERROR" is indicated on the display readout.
c) The transmission will be made with "default" information provided automatically.
d) The receiving station will poll the DSC unit of the vessel in Distress to download the necessary information.

029D- Repetition of a DSC Distress call is normally automatic if not acknowledged after a delay of:

a) 1 - 2 minutes
b) 2 - 5 minutes
c) 3.5 - 4.5 minutes
d) Not at all

029E- A MF/HF DSC Distress call:

a) Will send the minimal necessary information using the "Distress Button" or "Distress Hot Key"
b) Contains all the information normally of interest in on-scene Distress communications.
c) Will send a more detailed Distress format if time permits and operator data entries are correctly performed.
d) Both a) and c) are true

029F- Which statement regarding an MF/HF DSC Distress call is true:

a) Follow on communications should be presumed to take place on the TELEX frequency associated with the specific DSC frequency used.
b) Follow on communications should be presumed to take place on the voice frequency associated with the specific DSC frequency used.
c) An alternate emission and frequency may be specified for follow-up communications by the vessel originating the Distress alert.
d) Both b) and c) are true

Key Topic #029 Answer Key: A: b) B: a) C: c) D: c) E: d) F: d).

KEYTOPIC #030: FOLLOW-ON VOICE TRANSMISSION:

030A- You send a VHF-DSC Distress alert. What channel do you use for the follow-on voice transmission?

a) Ch-12
b) Ch-70
c) Ch-13
d) Ch-16

030B- You send a MF-DSC Distress alert. What frequency do you use for the follow-on voice transmission?

a) 2760 kHz
b) 2187.5 kHz
c) 2182 kHz
d) 2174.5 kHz

030C- You send a HF-DSC alert on 8414.5 kHz. What frequency do you use for the voice transmission?

a) 8376.5 kHz
b) 8291.0 kHz
c) 8401.5 kHz
d) 8201.0 kHz

030D- What is the proper format for a Distress follow on voice transmission? (3x is three times),

a) All Ships 3x, this is Ship's Name/Call Sign 3x , Mayday, Position.
b) Mayday 3x, this is Ship's Name/Call Sign 3x, Distress category.
c) Both of the above.
d) None of the above.

030E- What information should be included in a Distress follow on voice transmission?

a) Ship's Name and Call Sign.
b) Ship's position.
c) Ship's MMSI number.
d) All of the above.

030F- What information should be included in a Distress follow on voice transmission?

a) Follow on working frequency.
b) ETA at next port.
c) None of the above.
d) Both of the above.

Key Topic #030 Answer Key: A: d) B: c) C: b) D: d) E: d) F: c).

KEYTOPIC #031: RESPONSE TO A DISTRESS ALERT:

031A- Which statement is true regarding the receipt and acknowledgement of actual Distress follow-on communications by GMDSS ship stations.

a) A ship station that receives a Distress call from another vessel must, as soon as possible, inform the Master or person responsible for the ship of the contents of the Distress communications received.
b) Ship stations in receipt of Distress alert should not defer acknowledgement for a short interval, so that receipt may be acknowledged by the coast station.
c) A Coast station has the sole obligation to respond. A ship station should wait for the Coast station MMSI DSC Acknowledgment before taking action. If a Coast station has no response in 15 minutes the ship should DSC acknowledge and inform the RCC.
d) Alerts concerning navigational hazards are second only to Safety traffic.

031B- What does the acronym “EOS" indicate in the received message?

a) Error Of Sequence
b) End Of Sequence
c) End Of Signals
d) Equal Operating Signals

031C- What is the proper procedure to be followed upon receipt of a Distress alert transmitted by use of Digital Selective Calling techniques?

a) Set watch on the DSC alerting frequency in the band of frequencies the alert was received.
b) Set watch on the radiotelephone Distress and Safety frequency associated with the Distress and Safety calling frequency on which the Distress alert was received.
c) Set a continuous watch on VHF-FM Channel 13, 16 and DSC on Channel 70.
d) Ship stations equipped with narrow-band direct-printing equipment should respond to the Distress alert as soon as practicable by this means.

031D- What does the acronym "ECC" indicate in the received message?

a) Every Cipher Counted
b) Error Cannot Confirm
c) Error Check Character
d) Even Characters Counted

031E- What action should be taken on receipt of a Distress alert?

a) Read the display screen and/or printout.
b) Silence the alarm.
c) Listen for any follow on voice/TELEX transmission on the appropriate frequency.
d) All of the above

031F- What action should be taken if a Distress alert is received on the 12 MHz DSC frequency?

a) Use DSC to acknowledge the alert using the 12 MHz DSC frequency.
b) Set the receiver to 12290.0 kHz J3E.
c) Do nothing. Ship is too far away to render assistance.
d) Set the receiver to 12520.0 kHz F1B.

Key Topic #031 Answer Key: A: a) B: b) C: b) D: c) E: d) F: b).

KEYTOPIC #032: DISTRESS RELAYS:

032A- Your ship received a Distress relay from the U.S. Coast Guard on DSC freq. 2187.5 kHz. You would acknowledge by radiotelephony on what frequency?

a) 4207.5 kHz
b) 8290.0 kHz
c) 2182.0 kHz
d) 6312.0 kHz

032B- Your ship received a Distress relay on DSC VHF channel 70, on what channel would you reply?

a) Ch-70
b) Ch-06
c) Ch-13
d) Ch-16

032C- Under what conditions would you relay a DSC Distress alert?

a) If the mobile unit in Distress is incapable of further Distress alert communications.
b) If no Coast Station/Mobile Unit acknowledgement is observed.
c) Answers a) and b) are both possible.
d) You should never relay such an alert -- the Coast Station & RCC will do that.

032D- The relay of DSC Distress alerts:

a) Has completely overburdened the GMDSS system with improperly formatted or inappropriately relayed DSC calls.
b) Was originally an intended function of the GMDSS system.
c) Is no longer the preferred method for passing Distress message traffic to an RCC or Coast Station.
d) All of the above

032E- Transmission of a Distress alert by a station not in itself in Distress should occur:

a) When the mobile unit actually in Distress is not itself in a position to transmit the Distress alert.
b) When the Master or responsible person on the mobile unit not in Distress so decides.
c) When the responsible person at the Coast Station determines further help is necessary.
d) In some cases, all of the preceding situations may justify a Distress alert relay.

032F- Relays of Distress alerts using DSC may still be done. However, it is now recommended that such relays be done:

a) Only by Inmarsat-C TELEX with Distress Priority.
b) Only by Inmarsat-B voice or TELEX with Distress priority.
c) Preferably by MF/HF voice or TELEX directly to the RCC.
d) By any of the above methods which will effectively provide Distress communications to an RCC or Coast station without further activations of other Mobile Units' DSC controllers.

Key Topic #032 Answer Key: A: c) B: d) C: c) D: d) E: d) F: d).

KEYTOPIC #033: ACTION TO TAKE AFTER SENDING A FALSE DISTRESS ALERT:

033A-What action should you take after sending a false Distress alert on VHF?

a) Send a DSC cancellation message on Ch-70.
b) Make a voice announcement to cancel the alert on Ch-16.
c) Make a voice announcement to cancel the alert on Ch-13.
d) Make a voice announcement to cancel the alert on Ch-22A.

033B- What action should you take after sending a false Distress alert on MF?

a) Make a voice announcement to cancel the alert on 2187.5 kHz.
b) Make a voice announcement to cancel the alert on 2174.5 kHz.
c) Make a voice announcement to cancel the alert on 2182.0 kHz.
d) Send another DSC alert and follow on with voice on 2182.0 kHz.

033C-What action should you take after sending a false Distress alert on MF?

a) Send another DSC alert on 2187.5 kHz. and follow on with voice on 2187.5 kHz.
b) No action is necessary.
c) Send a DSC alert on all 7 DSC frequencies and follow on voice on 2174.5 kHz.
d) Make a voice announcement to cancel the alert on 2182.0 kHz.

033D- What action should you take after sending a false Distress alert on 8 MHz?

a) Make an "ALL SHIPS" call on all 5 H.F. TELEX channels canceling the alert.
b) Make an "ALL SHIPS" call on 8291.0 kHz canceling the alert.
c) Make a "MAYDAY" call on 8414.5 kHz canceling the alert.
d) Make an "Urgency" call on 8614.0 kHz canceling the alert.

033E- What action should you take after sending a false Distress alert on 12577.0 kHz?

a) No action is necessary.
b) Make an "ALL SHIPS" call on all 5 H.F. TELEX frequencies canceling the alert.
c) Make an "ALL SHIPS" call on the associated 12 MHz J3E frequency canceling the alert.
d) Send a message to the nearest RCC via Inmarsat canceling the alert.

033F- What action should you take after sending a false Distress alert on Inmarsat-C?

a) Press the "Distress Hot Keys" then press the "cancel" key.
b) Select "Transmit" menu and send a cancel message via the CES used for the Distress alert.
c) Both of the above
d) None of the above

Key Topic #033 Answer Key: A: b) B: c) C: d) D: b) E: c) F: b).

KEY TOPIC #034: RADIO SILENCE & RESUMPTION OF NORMAL TRAFFIC:

034A- What is the fundamental purpose for imposing radio silence?

a) To ensure that interference to proprietary communications is minimized.
b) To ensure that only voice communications can be effected on the Distress frequency or channel.
c) To ensure that a distressed vessel will have a "window" twice each hour for transmitting routine messages.
d) To ensure that interference on a particular frequency or channel for communications concerning emergency traffic is minimized.

034B- When can routine communications be resumed when radio silence has been imposed?

a) After determining that the frequency or channel appears to be no longer in use.
b) After determining that geographic distance from the Distress situation will prohibit any other signal from interfering with emergency communications.
c) Routine communications can resume after the Rescue Coordination Center transmits a message on the frequency or channel being used for emergency communications stating that such traffic has concluded.
d) If, in the master's opinion, communications on that frequency will interfere with emergency communications.

034C- What is meant by the term "radio silence"?

a) Stations not directly involved with the on-going Distress communications may not transmit on the Distress frequency or channel.
b) Stations remaining off the air to safeguard proprietary information.
c) Two three-minute silent periods, at 15 and 45 minutes after the hour, that provide a transmitting "window" for distressed vessels to transmit Distress alerts using J3E.
d) Communications on a Distress frequency or channel is banned for 24 hours following the cessation of the Distress traffic.

034D- How is "radio silence" imposed?

a) By the On Scene Coordinator (OSC).
b) By the Coast Earth Station (CES) controlling the Distress communications on that frequency.
c) By the nearest Public Correspondence Coast Station.
d) By the vessel first responding to the Distress call.

034E- How are normal working conditions restored on a narrow band direct printing (NBDP) frequency on which radio silence had been imposed?

a) The RCC that imposed the radio silence must transmit a NBDP message stating "SILENCE FINI".
b) The CES that imposed the radio silence must transmit a NBDP message stating "SILENCE FINI".
c) The Public Correspondence Station (PCS) that imposed the radio silence must transmit a narrow band direct printing message on the Distress frequency stating "SILENCE FINI".
d) The High Seas Service (HSS) that imposed the radio silence must transmit a narrow band direct printing message on the Distress frequency stating "SILENCE FINI".

034F- How are normal working conditions restored after radio silence has been imposed?

a) The Rescue Coordination Center (RCC) that imposed the radio silence must transmit a voice message on the Distress frequency stating "SEELONCE FEENEE".
b) The Coast Earth Station (CES) that imposed the radio silence must transmit a voice message on the Distress frequency stating "SILENCE FINI".
c) The Public Correspondence Station (PCS) that imposed the radio silence must transmit a voice message on the Distress frequency stating "SILENCE FINI".
d) None of the above

Key Topic #034 Answer Key: A: d) B: c) C: a) D: a) E: a) F: a).

KEY TOPIC #035: URGENCY TRAFFIC:

035A- The Radiotelephone Urgency signal is:

a) Mayday
b) Pan Pan
c) Securite
d) Seelonce Feenee

035B- Which of the following situations would normally use the Urgency priority?

a) A crewmember over the side.
b) A serious medical situation involving a crewmember.
c) A cargo shift or weather situation considered to be of greater hazard than would justify a Safety priority designation.
d) Answers b) and c)

035C- Which of the following situations would normally use the Urgency priority?

a) Leaking oil from a minor tank fracture.
b) Treatment of crewmember breaking a leg in a cargo hold.
c) A fire in the generator flat/spaces.
d) Answers a) and b) are both possible.

035D- Which of the following situations would normally use the Urgency priority?

a) A crewmember over the side.
b) A serious medical situation involving a crewmember.
c) Both a) and b)
d) Scenarios concerning the Safety of navigation or important meteorological warnings.

035E- The Urgency Priority should be used for:

a) Messages concerning the Safety of Life At Sea (SOLAS).
b) Messages detailing important navigational warnings.
c) Messages containing information concerning the Safety of a mobile unit or person.
d) Messages concerning On-scene communications .

035F- If the Watch Officer hears "PAN PAN" spoken 3 times it means:

a) A navigation or important meteorological warning should follow.
b) The station is preparing to transmit an Urgency message possibly concerning the Safety of a mobile unit or person.
c) A mobile unit is in need of immediate assistance.
d) None of the above

Key Topic #035 Answer Key: A: b) B: d) C: b) D: b) E: c) F: b).

KEY TOPIC #036: SAFETY TRAFFIC:

036A- When the GMDSS Radio Operator on watch hears "SECURITE" spoken three times, he can expect to receive the following information:

a) Message concerning the Safety of navigation or important meteorological warnings.
b) Safety of vessel or person is in jeopardy.
c) Vessel in need of immediate assistance.
d) Coast Station Traffic list.

036B- Which of the following situations would normally use the Voice designation "Securite"?

a) Messages concerning the Safety of Life At Sea (SOLAS).
b) Messages detailing important navigational warnings.
c) Messages containing information concerning the Safety of a mobile unit or person.
d) Messages concerning On-scene communications .

036C- Which of the following situations would normally use the Safety priority?

a) Loss of 5 containers with lashing gear over the side.
b) Treatment of crewmember breaking a leg in a cargo hold.
c) A fire in the generator flat/spaces.
d) Answers a) and b) are both possible.

036D- Which of the following situations would normally use the Safety priority?

a) A crewmember over the side.
b) A serious medical situation involving a crewmember.
c) Both a) and b)
d) Scenarios concerning the Safety of navigation or important meteorological warnings.

036E- The Radiotelephone Safety signal is:

a) "Securite" repeated 3 times
b) "Safety Safety Safety"
c) "Pan Pan" repeated 3 times
d) "Securite Securite" repeated 3 times

036F- Which of the following situations would normally use the Safety priority?

a) A crewmember over the side.
b) A serious medical situation involving a crewmember.
c) A scenario concerning an important navigational or meteorological warning.
d) All of the above

Key Topic #036 Answer Key: A: a) B: b) C: a) D: d) E: a) F: c).

KEY TOPIC #037: FREQUENCIES:

037A- Which of the following frequencies and modes is allocated for Distress alerting in GMDSS?

a) 406 MHz via EPIRB.
b) 1626.5-1645.5 MHz via Inmarsat.
c) Channel 70 DSC plus six (6) MF/HF DSC frequencies.
d) All of the above

037B- Which of the following frequencies is normally used for Distress and Safety communications?

a) 490 kHz
b) 518 kHz
c) 4209.5 kHz
d) 2174.5 kHz

037C- Which channel is designated for GMDSS Digital Selective Calling?

a) Ch-06
b) Ch-13
c) Ch-16
d) Ch-70

037D- How many MF frequencies are available for DSC Distress related calls?

a) One
b) Two
c) Four
d) Five

037E- How many HF frequencies are available for DSC Distress related calls?

a) One
b) Two
c) Four
d) Five

037F- How many frequencies are available under GMDSS for DSC Distress-related calls?

a) Two
b) Four
c) Five
d) Seven

Key Topic #037 Answer Key: A: d) B: d) C: d) D: a) E: d) F: d).

KEY TOPIC #038: OTHER PROCEDURES:

038A- Which of the following steps should be taken, if possible, when the vessel must be abandoned because of a Distress situation?

a) Alert the U.S. Coast Guard by using the survival craft's portable INMARSAT unit.
b) Program the SART and EPIRB to transmit the vessel's location and situation.
c) Place the SART and EPIRB in the "on" position and secure them to the survival craft.
d) No additional steps are needed as the SART and EPIRB will both automatically float free and operate properly.

038B- 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) Switch off EPIRB and SART manually.
b) Transmit Distress call by HF/MF/VHF DSC or Inmarsat.
c) Notify the RCC (Rescue Coordination Center) through VHF FM on channel 13.
d) Transmit Distress call by activating the radiotelegraph automatic alarm signal.

038C- DSC is used primarily to:

a) Receive weather warnings, navigational notices and other Maritime Safety Information.
b) Provide routine communications with the ship owner.
c) Transmit and receive Distress, Urgency and Safety alerts to and from other ships and shore stations via radio.
d) Report ship's position to search-and-rescue authorities via satellite.

038D- GMDSS vessels equipped for A2, A3 or A4 must maintain a continuous DSC watch on 2187.5 kHz.

a) Only in areas beyond Inmarsat coverage.
b) Only outside of areas covered by VHF-DSC.
c) When directed to do so by a cognizant rescue authority.
d) At all times when underway.

038E- Which statement is true regarding Distress communications under GMDSS?

a) Distress communications by NBDP should be in the ARQ mode when in communications with the Coast Guard or other coast stations.
b) The Rescue Coordination Center (RCC) is responsible for controlling a search and rescue operation and will also coordinate the Distress traffic relating to the incident.
c) The Rescue Coordination Center may appoint another station to coordinate Distress traffic relating to the incident.
d) All of these

038F- When operating in coastal waters (sea area A1), a GMDSS-equipped vessel must:

a) Maintain a continuous DSC watch on 8514.5 kHz.
b) Maintain a continuous aural watch on 2182 kHz.
c) Maintain a continuous DSC watch on VHF channel 16.
d) Maintain a continuous DSC watch on VHF channel 70.

Key Topic #038 Answer Key: A: c) B: b) C: c) D: d) E: d) F: d).

KEY TOPIC #039: SART: ACTIVATION & SURVIVAL CRAFT OPERATIONS:

039A- What is the purpose of the SART's audible tone alarm?

a) It informs survivors that assistance may be nearby.
b) It informs survivors when the battery's charge condition has weakened.
c) It informs survivors when the SART switches to the "standby" mode.
d) It informs survivors that a nearby vessel is signaling on DSC.

039B- What indication is given to the personnel of survival craft of the approach of another vessel?

a) The SART will provide a visual or audible indication of interrogation by a 3-cm radar.
b) The Satellite EPIRB will emit an audible signal.
c) The VHF portable radio will emit an audible alarm signal on Ch-70.
d) The VHF portable will provide a visual indication.

039C- How can a SART's effective range be maximized?

a) The SART should be placed in water immediately upon activation.
b) The SART should be held as high as possible.
c) Switch the SART into the "high" power position.
d) If possible, the SART should be mounted horizontally so that its signal matches that of the searching radar signal.

039D- In a lifeboat or liferaft, what is a method of maximizing the effectiveness of an SART?

a) Place the SART into the sea as soon as possible to begin transmitting.
b) Hold or mount the unit as high as possible.
c) Extend the length of the transmitting antenna.
d) Replace the internal battery with the AC power adapter.

039E- 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 respond when it has been interrogated by a 9-GHz radar signal.
d) If it has been placed in the "on" position, it will begin transmitting immediately upon detecting that it is in water.

039F- What causes the SART to begin a transmission?

a) When activated manually, it begins radiating immediately.
b) It is either manually or water activated before radiating.
c) After being activated the SART responds to radar interrogation.
d) It begins radiating only when keyed by the operator.

Key Topic #039 Answer Key: A: a) B: a) C: b) D: b) E: c) F: c).

KEY TOPIC #040: SART: SAR PROCEDURES & RADAR PRESENTATION:

040A- How does the searching vessel's radar interrogate a survival craft SART?

a) Activate the IFF interrogation system.
b) The SART responds automatically when it detects the search craft or other vessels' X-Band radar signal.
c) Maintain watch on VHF-FM Ch-70 for the SART's unique identifier.
d) The SART responds automatically when it detects the search craft or other vessel's 3.5 GHz radar signal.

040B- What does a SART signal sound or look like?

a) It transmits "SOS" and the vessel's name and position in slow speed Morse Code.
b) It will appear on a radar unit's PPI as a line of dots radiating outward, with the innermost dot indicating the SART's position.
c) It will appear on a radar unit's PPI as a line of dots radiating outward, with the outermost dot indicating the SART's position.
d) None of the above

040C- How can rescue personnel detect that a SART is transmitting in the immediate vicinity?

a) The SART's dots on the PPI will become arcs and then eventually become concentric circles.
b) The DSC unit will react to the SART's signal and respond with the two-tone auto alarm.
c) The SART can provide an approximate location to within a two nautical mile radius, per IMO standards.
d) The SART signal appears as a target which comes and goes; the effect of heavy swells on a SART.

040D- What signal is detected as originating from an SART?

a) The Morse code Distress series S-O-S repeated three times followed by DE and the vessel's call sign.
b) A line of dots on a radar screen outward from the SART's position along its line of bearing.
c) A line of dots on a radar screen inward from the SART's position to its own ship along its line of bearing.
d) None of these

040E- 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) A unique two-tone "warbling" signal heard on VHF-FM Ch-70.
c) A unique two-tone alarm signal heard upon the automatic un-muting of the 2182 kHz radiotelephone automatic watch receiver.
d) The SART signal appears as a target which comes and goes; the effect of heavy swells on an SART.

040F- How should the signal from a Search And Rescue Radar Transponder appear on a radar display?

a) A series of dashes.
b) A series of spirals all originating from the range and bearing of the SART.
c) A series of 12 equally spaced dots.
d) A series of twenty dashes.

Key Topic #040 Answer Key: A: b) B: b) C: a) D: b) E: a) F: c).

KEY TOPIC #041: SART: FREQUENCY & OPERATIONS:

041A- In which frequency band does a search and rescue transponder operate?

a) 3 GHz
b) 9 GHz
c) S-band
d) 406 MHz

041B- Which of the following would most likely prevent a SART's signal from being detected?

a) Signal absorption by the ionosphere.
b) Heavy sea swells.
c) The rescue personnel were monitoring the 10-CM radar.
d) The rescue personnel were monitoring the 3-CM radar.

041C- Which statement is NOT true regarding the SART?

a) Responds to interrogations by a vessel's X-Band radar.
b) Transmits on the 9 GHz band reserved for navigational radar.
c) Operates in conjunction with a vessel's S-Band radar.
d) Transmits a distinctive code for easy recognition.

041D- Which statement is true regarding the SART?

a) This is a performance monitor attached to at least one S-band navigational radar system.
b) This is a 9 GHz transponder capable of being received by vessel's X-band navigational radar system.
c) This is a 9 GHz transponder capable of being received by another vessel's S-band navigational radar system.
d) This is a performance monitor attached to at least one X-band navigational radar system.

041E-Which statement is NOT true regarding the SART?

a) Responds to interrogations by a vessel's X-Band radar.
b) This is a 6 GHz transponder capable of being received by a vessel's X-band navigational radar system.
c) This is a 9 GHz transponder capable of being received by a vessel's X-band navigational radar system.
d) Transmits a distinctive signal for easy recognition.

041F- A SART's signal cannot be detected:

a) In poor visibility, or at night.
b) In heavy seas
c) By a search vessel's 10 cm Radar.
d) By a search vessel's 3 cm Radar.

Key Topic #041 Answer Key: A: b) B: c) C: c) D: b) E: b) F: c).

KEY TOPIC #042: SART: TESTING PROCEDURES & BATTERY PARAMETERS:

042A- Which of the following statements concerning testing and maintenance of SARTs is true?

a) An at-sea GMDSS maintainer is not able to test a SART as it is hermetically sealed.
b) Testing a SART should be performed only in controlled environment as a test signal may be misinterpreted as a genuine Distress situation.
c) A SART's battery must be replaced within ninety (90) days after the expiration date imprinted on the unit.
d) All of the above.

042B- Why is it important to limit the duration of testing a SART?

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

042C- What statement is true regarding tests and maintenance that could be provided for the SART?

a) To fully verify operation within manufacturer's specifications would require measuring equipment to generate 9 GHz signals; generally beyond the scope of on-board maintenance.
b) Extreme care should be exercised because testing of the SART may be received by other vessels, and may be interpreted as a Distress condition, or it may interfere with other vessels' safe navigation.
c) Battery should be replaced with a new one before the manufacturer's expiration date shown on the SART.
d) All of these

042D-Why should functional testing of a SART be minimized?

a) Potential interference with safe navigation.
b) Minimize power consumption of the battery.
c) Possibility of misinterpretation by other vessels as a Distress situation.
d) All of these

042E- Which is not a valid maintenance and testing function for a SART?

a) Operational test with several vessels to determine effective transmitting range.
b) Inspection of container for apparent damage.
c) Inspect battery expiration date and the lanyard condition.
d) Brief operational test utilizing own ship's radar.

042F- The SART is required to have sufficient battery capacity to operate in the stand-by mode for what period of time?

a) Eight hours
b) Three days
c) Four days
d) Forty-eight hours

Key Topic #042 Answer Key: A: b) B: b) C: d) D: d) E: a) F: c).

KEY TOPIC #043: EPIRB: SYSTEM STRUCTURE & OPERATION:

043A- Which is a function of a satellite under COSPAS-SARSAT using satellite EPIRBs?

a) Relayed satellite message includes the EPIRB ID number which provides a reference for retrieval of vessel information from the shore database.
b) Doppler shift of EPIRB signal is measured.
c) Information received from EPIRBs are time-tagged and transmitted to any Local User Terminal in the satellite's view.
d) All of these

043B- Which of the following satellite systems is of particular importance to search and rescue missions under GMDSS?

a) COSPAS/SARSAT
b) AMSAT
c) NASA/Arienne
d) COMSAT

043C- Which of the following statements concerning COSPAS-SARSAT is true?

a) EPIRBs are units that are used as alerting devices.
b) These are satellites in a low-earth polar orbit that detect EPIRB beacons on 406 MHz and relay the information to a Local User Terminal (LUT).
c) The Doppler frequency measurement concept is used to determine the EPIRB's location.
d) All of the above.

043D- Which of the following statements concerning COSPAS-SARSAT is false?

a) EPIRBs are used primarily for Distress alerting.
b) These satellites are looking for EPIRB signals on 406 MHz.
c) These satellites use Doppler shift measurement to determine the location of the beacons.
d) After initiating a call request and selecting the CES, these satellites may be used for commercial messages.

043E- Which of the following statements concerning the EPIRB system is true?

a) GOES weather satellites will provide alerting with worldwide coverage.
b) The COSPAS-SARSAT system always provides an alert and position report within 5-20 minutes of reception.
c) The Inmarsat system will not provide alerts and position report for 406 Mhz EPIRBs equipped with GPS receivers.
d) The GPS satellite system will provide an alert and position report within 20 minutes of reception.

043F- Which of the following statements concerning satellite EPIRBs is true?

a) Once activated, these EPIRBs transmit a signal for use in identifying the vessel and for determining the position of the beacon.
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) If the GMDSS Radio Operator does not program the EPIRB, it will transmit default information such as the follow-on communications frequency and mode.

Key Topic #043 Answer Key: A: d) B: a) C: d) D: d) E: c) F: a).

KEY TOPIC #044: EPIRB: ALERTING & FEATURES:

044A- What feature(s) may be found on certain satellite EPIRB units?

a) Strobe light
b) Emergency transmission on 406 MHz.
c) Float-free release bracket.
d) All of these

044B- What feature is not found on 406 MHz satellite EPIRB units?

a) 121.5 MHz emergency homing transmitter.
b) Aural locator signal.
c) Emergency transmission on 406.025 MHz.
d) Float-free release bracket.

044C- What statement is true regarding 406 MHz EPIRB transmissions?

a) Allows immediate voice communications with the RCC.
b) Coding permits the SAR authorities to know if manually or automatically activated.
c) Transmits a unique hexadecimal identification number.
d) Radio Operator programs an I.D. into the SART immediately prior to activation.

044D- Which of the following is normally found on EPIRBs that are detected by satellites?

a) A strobe light
b) A 5-watt 406-MHz beacon.
c) A bracket designed to allow the EPIRB to automatically float-free.
d) All of the above

044E- Which of the following statements concerning EPIRB alerts is false?

a) The COSPAS-SARSAT system may take a full hour or more to provide an alert.
b) The GOES weather satellites are in a geostationary orbit.
c) The Inmarsat system provides worldwide coverage for Distress alerts.
d) 406 MHz EPIRB units may be equipped with GPS receivers.

044F- Which of the following EPIRBs is most likely to be used to transmit a Distress alert signal?

a) S-Band EPIRBs
b) 406 MHz EPIRBs
c) Class A EPIRBs
d) 121.5/243 MHz EPIRBs

Key Topic #044 Answer Key: A: d) B: b) C: c) D: d) E: c) F: b).

KEY TOPIC #045: EPIRB: HOMING & LOCATING SIGNALS:

045A- Which of the following would best be used for visual detection of a distressed vessel?

a) A 9-GHz SART's beacon.
b) An EPIRB's strobe light.
c) A 121.5-MHz EPIRB beacon.
d) A 406-MHz EPIRB beacon.

045B- Which piece of required GMDSS equipment is the primary source of transmitting locating signals?

a) Radio Direction Finder (RDF).
b) An EPIRB transmitting on 406 MHz.
c) Survival Craft Transceiver.
d) A SART transmitting on 406 MHz.

045C- What may be used as a homing signal by the search and rescue vessels in the immediate vicinity of the ship in Distress?

a) Flare gun
b) Strobe Light
c) A 121.5 MHz emergency transmitter in a satellite EPIRB.
d) 406 MHz signal from a satellite EPIRB.

045D- What part of a satellite EPIRB may function as a visual aid to rescue vessels?

a) A 121.5 MHz emergency transmitter in a satellite EPIRB.
b) Strobe light
c) 406 MHz signal from a satellite EPIRB.
d) Loud beeping tone emitted by the unit, once activated.

045E- What is an example of a locating signal?

a) SSB phone traffic
b) Ship to shore transmissions
c) Loran C
d) A float-free EPIRB

045F- Which device provides the main means in the GMDSS for locating ships in Distress, or their survival craft?

a) Radio Direction Finder
b) Satellite EPIRBs
c) MF/HF DSC
d) VHF homing device

Key Topic #045 Answer Key: A: b) B: b) C: c) D: b) E: d) F: b).

KEY TOPIC #046: SURVIVAL CRAFT TRANSCEIVER:

046A- With what other stations may portable survival craft transceivers communicate?

a) Communication is permitted between survival craft.
b) Communication is permitted between survival craft and ship.
c) Communication is permitted between survival craft and rescue unit.
d) All of the above

046B- Equipment for radiotelephony use in survival craft stations under GMDSS must have what capability?

a) Operation on Ch-16.
b) Operation on 457.525 MHz.
c) Operation on 121.5 MHz.
d) Any one of these

046C- Equipment for radiotelephony use in survival craft stations under GMDSS must have what characteristic(s)?

a) Operation on Ch-16
b) Watertight
c) Permanently-affixed antenna
d) All of these

046D- Which statement is NOT true regarding the requirements of survival craft portable two-way VHF radiotelephone equipment?

a) Operation on Ch-16
b) Effective radiated power should be a minimum of 2.0 Watts.
c) Simplex (single frequency) voice communications only.
d) All of these

046E- Which statement is NOT true regarding the requirements of survival craft portable two-way VHF radiotelephone equipment?

a) Operation on Ch-13
b) Effective radiated power should be a minimum of 0.25 Watts.
c) Simplex (single frequency) voice communications only.
d) Operation on Ch-16

046F- Which statement is NOT true regarding the requirements of survival craft portable two-way VHF radiotelephone equipment?

a) Operates simplex on Ch-70 and at least one other channel.
b) Watertight to a depth of 1 meter for 5 minutes.
c) Effective radiated power should be a minimum of 0.25 Watts.
d) The antenna is fixed and non-removable.

Key Topic #046 Answer Key: A: d) B: a) C: d) D: b) E: a) F: a).

KEY TOPIC #047: SAR/MCC/RCC: SYSTEMS & PROCEDURES:

047A- Which action should the GMDSS radio operator take in a Distress situation when embarking in survival craft?

a) Switch on EPIRB and SART immediately and leave on.
b) EPIRB and SART switched on manually prior to embarking; remain aboard vessel in Distress.
c) Notify RCC (Rescue Coordination Center) through VHF DSC in portable equipment.
d) Communicate via Inmarsat-C from the survival craft.

047B- Which is the key part of the search and rescue system under GMDSS?

a) COSPAS/SARSAT satellites
b) AMSAT satellites
c) NASA satellites
d) U.S. Space Agency satellites

047C- Which statement is true regarding the COSPAS-SARSAT system?

a) EPIRBs are satellite beacons used aboard vessels as alerting devices.
b) Signals received by low altitude, near-polar orbiting satellites are relayed to a ground receiving station, called a Local User Terminal.
c) Doppler shift is used to locate the beacons.
d) All of these

047D- Which statement is NOT true regarding the COSPAS-SARSAT system?

a) EPIRBs are satellite beacons used as alerting/locating devices.
b) Locates Distress beacons transmitting on 406 MHz.
c) Doppler shift is used to locate the beacons.
d) May be used to transmit public correspondence.

047E- What information is transmitted by a 406 MHz EPIRB alert?

a) Vessel position and nature of Distress.
b) A unique Hexadecimal I.D. number.
c) Vessel name and identification.
d) None of the above

047F- Which statement is true regarding the COSPAS-SARSAT system and EPIRB operations?

a) The EPIRB's position is calculated by the system and passed to the RCC.
b) The EPIRB transmits a unique Hex I.D. and vessel position that is passed to the RCC.
c) The EPIRB transmits a unique Hex I.D. that is passed to the RCC.
d) Both a) and c) are true

Key Topic #047 Answer Key: A: a) B: a) C: d) D: d) E: b) F: d).

KEY TOPIC #048: ON SCENE COMMUNICATIONS:

048A- Which of the following has been designated for “On-scene” communications in GMDSS?

a) Ch-24
b) Ch-2182
c) Ch-70
d) Ch-16 on VHF radiotelephone and 2174.5 kHz using MF SITOR.

048B- Which of the following channels is designated as the VHF follow-on communications channel and is required in all portable survival craft equipment?

a) Ch-6
b) Ch-13
c) Ch-16
d) Ch-70

048C- Which of the following frequencies have been designated for “On-scene” communications in the Global Maritime Distress and Safety System?

a) VHF Ch-22
b) HF radiotelephone on 21.820 MHz.
c) NBDP on 2177.0 kHz and VHF Ch-16.
d) VHF Ch-16 and NBDP on 2174.5 kHz.

048D- Which of the following frequencies have NOT been designated for “On-scene” communications in the Global Maritime Distress and Safety System?

a) VHF Ch-16
b) MF radiotelephony on 2182 kHz
c) NBDP on 2182.0 kHz
d) None of these

048E- “On-scene" communications would best be represented by?

a) NBDP on 2174.5
b) Sending DSC alert on VHF Ch-70
c) Using Inmarsat-C "hot-key" function
d) None of the above

048F- For “On-scene” communications, vessels in Distress and SAR Aircraft should use?

a) VHF Ch-70, 4125 kHz J3E, 5680 kHz J3E
b) VHF Ch-16, 4125 kHz J3E, 3023 kHz J3E
c) VHF Ch-16, 4125 kHz F1B, 3023 kHz J3E
d) None of the above

Key Topic #048 Answer Key: A: d) B: c) C: d) D: c) E: a) F: b).

KEY TOPIC #049: VHF: CONTROLS, VOLUME, SQUELCH, POWER, RANGE:

049A- Which of the following control selections may result in limited receiving range?

a) Setting the squelch control to its minimum level.
b) The power switch is set to the "high" output position, resulting in receiver overloading.
c) Setting the squelch control to its maximum level.
d) Setting the channel selection switch midway between channels 6 and 16.

049B- At mid-day, what would be the best choice in attempting to communicate with a shore station 15 miles distant?

a) VHF-FM
b) 16 MHz band
c) 12 MHz band
d) 22 MHz band

049C- Which factors normally determine the range of VHF transmissions:

a) Channel frequency
b) Power level
c) Both b) and d)
d) Vessel antenna height

049D- Causes of much longer than normal VHF transmissions are:

a) Changing power from 1W to 25 W.
b) Atmospheric ducting
c) Ionospheric activity in layers F1/F2.
d) None of the above

049E- Describing VHF transmissions as "line of sight" means:

a) VHF communications are effective only with nearby stations within visual range of the bridge.
b) Vessel antenna height will affect the radius of propagation.
c) The normal transmission range to a coast station is approximately 25 NM.
d) Both b) and c) are true

049F- The effectiveness of VHF communications is maximized by:

a) The adjustment of squelch for maximum receiver sensitivity.
b) Appropriate setting of the transmitter power.
c) Selecting an appropriate channel.
d) All of the above

Key Topic #049 Answer Key: A: c) B: a) C: c) D: b) E: d) F: d).

KEY TOPIC #050: VHF: CHANNEL SYSTEM, USAGE, & U.S.-INTERNATIONAL CHANNELS:

050A- A VHF frequency channel pair of TX 157.200 MHz and RX 161.800 MHz would most likely be:

a) A Public Correspondence Coast Radio Station frequency.
b) Simplex
c) Duplex
d) Both a) and c) are correct

050B- Which channel is utilized for the required bridge-to-bridge watch?

a) DSC on Ch-70
b) VHF-FM on Ch-16
c) VHF-FM on Ch-13 in most areas of the continental United States.
d) The vessel's VHF working frequency.

050C- While conducting routine communications using the wheelhouse VHF with a station 1 mile distant, your recommended power setting would be:

a) 25 watts after dark.
b) 1 watt, day or night.
c) 25 watts during a clear sunny day.
d) 1 watt using DSC at night.

050D- The USA-INT control on VHF units:

a) Selects duplex operations for U.S. coastal waters and simplex operations in non-U.S. waters, on the "alpha" channels.
b) Changes selected international duplex channels to simplex channels for use in U.S. waters.
c) Both of the scenarios above may be set up and selected by the operator.
d) None of the above

050E- The USA-INT control on VHF units:

a) Was made necessary by a desire for more simplex channels in the U.S.
b) Correctly set, will result in duplex operations in U.S. Coastal waters on the "alpha" channels.
c) Correctly set, will result in simplex operations in U.S. Coastal waters on the "alpha" channels.
d) Both a) and c) are true

050F- Proper and legal VHF operations require:

a) The channel must be designated as valid for the nature or type of communications desired.
b) The correct bandwidth must be selected by the operator.
c) The power level must be appropriately chosen.
d) Both answers a) and c) are correct

Key Topic #050 Answer Key: A: d) B: c) C: b) D: b) E: d) F: d).

KEY TOPIC #051: NAVTEX-1: OPERATIONS:

051A- How is mutual interference among NAVTEX stations avoided?

a) Stations are limited to daytime operation only.
b) Transmitter power is limited to that necessary for coverage of assigned area.
c) Transmissions by stations in each NAVAREA are arranged in a time-sharing basis.
d) Both b) and c).

051B- When do NAVTEX broadcasts typically achieve maximum transmitting range?

a) Local noontime
b) Middle of the night
c) Sunset
d) Post sunrise

051C- What should a GMDSS Radio Operator do if a NAVTEX warning message is received but it contains too many errors to be usable?

a) Do nothing. Vital NAVTEX messages will be repeated on the next scheduled broadcast.
b) Contact the NAVAREA coordinator and request a repeat broadcast.
c) The hurricane will be upon the vessel; they're in big trouble.
d) Listen to appropriate VHF weather channel for repeat warnings.

051D- What does a NAVTEX receiver do when it runs out of paper?

a) The unit cannot operate, and all subsequent MSI broadcasts are missed until the paper is replaced.
b) It will give off either an audible and/or visual alarm.
c) The system will automatically change from receiving MSI by NAVTEX to receiving it by SafetyNET™ so that no messages will be lost.
d) All of the above

051E- Which of the following is the primary frequency that is used exclusively for NAVTEX broadcasts internationally?

a) 518 kHz
b) 2187.5 kHz
c) 4209.5 kHz
d) VHF channel 16 when the vessel is sailing in Sea Area A1, and 2187.5 kHz when in Sea Area A2.

051F- What is the transmitting range of most NAVTEX stations?

a) Typically 50-100 nautical miles (90-180 km) from shore.
b) Typically upwards of 1000 nautical miles (1800 km) during the daytime.
c) It is limited to line-of-sight or about 30 nautical miles (54 km).
d) Typically 200-400 nautical miles (360-720 km).

Key Topic #051 Answer Key: A: d) B: b) C: a) D: b) E: a) F: d).

KEY TOPIC #052: NAVTEX-2: PROGRAMMING:

052A- How is a NAVTEX receiver programmed to reject certain messages?

a) The transmitting station's two-digit identification can be entered to de-select reception of its broadcasts.
b) By choosing a message category's single letter (A-Z) identifier and then deselecting or deactivating.
c) By entering the SELCALL of the transmitting station.
d) By pressing "00" in the transmitter's ID block.

052B- How can reception of certain NAVTEX broadcasts be prevented?

a) Stations are limited to daytime operation only.
b) The receiver can be programmed to reject certain stations and message categories.
c) Coordinating reception with published broadcast schedules.
d) Automatic receiver desensitization during night hours.

052C- Which of the following statements is true?

a) The GMDSS Radio Operator can program the NAVTEX receiver to automatically reject any category of messages.
b) The GMDSS Radio Operator can program the NAVTEX receiver to reject all messages except navigation warnings, meteorological warnings, and search and rescue information.
c) The GMDSS Radio Operator can select the "None" option in the message category menu.
d) Upon entering a new NAVTEX station's broadcast range, the GMDSS Radio Operator enters the station's SELCALL number.

052D- What means are used to prevent the reception of unwanted broadcasts by vessels utilizing the NAVTEX system?

a) Operating the receiver only during daytime hours.
b) Programming the receiver to reject unwanted broadcasts.
c) Coordinating reception with published broadcast schedules.
d) Automatic receiver de-sensitization during night hours.

052E- What statement is true regarding the control the operator can exercise over the NAVTEX receiver's operation?

a) The operator can set the unit to automatically reject any and all categories of messages if the ship desires to not receive them.
b) The operator can set the unit to reject all messages except navigation, weather and sea warnings, and search and rescue messages.
c) To reduce the number of messages, the operator can select code 00 to indicate "not in coastal passage".
d) Upon entering a coastal area for the first time, the operator enters code KK to indicate "ready to receive NAVTEX".

052F- Which message subject matter can be programmed to be rejected or disabled by the operator of a NAVTEX receiver?

a) Navigational warnings
b) Meteorological warnings
c) Pilot Service Messages
d) All of these

Key Topic #052 Answer Key: A: b) B: b) C: b) D: b) E: b) F: c).

KEY TOPIC #053: NAVTEX-3: MESSAGE FORMAT:

053A- The NAVTEX message header contains the following?

a) A single letter (A-Z) indicates the NAVTEX transmitting station.
b) A two-digit number (01-99) indicates the NAVTEX message category.
c) Message numbers include a date/time group, along with the transmitting station's numerical ID.
d) None of these

053B- Which of the following message categories cannot be disabled by the GMDSS Radio Operator?

a) Navigational warnings
b) Meteorological warnings
c) Search and Rescue information
d) All of the above

053C- How are NAVTEX broadcasts transmitted?

a) Using FEC techniques.
b) NAVTEX is transmitted by commercial coast radio stations following their traffic lists.
c) NAVTEX is transmitted only when an Urgency or Distress broadcast is warranted.
d) No more often than every two hours and should immediately follow the radiotelephone silent periods.

053D- Which determines whether a NAVTEX receiver does not print a particular type of message content?

a) The serial number and type of message have already been received.
b) The subject indicator matches that programmed for rejection by the operator.
c) The transmitting station ID covering your area has not been programmed for rejection by the operator.
d) Both answers a) and b).

053E- Which information determines if a NAVTEX message is to be rejected?

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

053F- NAVTEX broadcasts are sent:

a) In categories of messages indicated by a single letter or identifier.
b) Immediately following traffic lists.
c) On request of maritime mobile stations.
d) Regularly, after the radiotelephone silent periods.

Key Topic #053 Answer Key: A: a) B: d) C: a) D: d) E: b) F: a).

KEY TOPIC #054: SAFETYNET™-1: OPERATIONS:

054A- Where NAVTEX cannot be feasibly established, what system can be implemented to provide an automated service in coastal waters to receive MSI?

a) SafetyNET™
b) AMVER
c) VHF DSC
d) ARQ SITOR

054B- What action should a GMDSS Radio Operator take when SafetyNET™ Distress or Urgency messages are received by the vessel's EGC receiver?

a) No immediate action is required, as an audible tone will be generated at the beginning and end of the transmission and a paper printout of the message will be generated.
b) Aural and visual alarms are activated, and require manual deactivation.
c) No immediate action is required by the operator, since the transmission will be automatically acknowledged by the receiving vessel.
d) A periodic alarm tone will be heard until the radio operator prints the message from the unit's memory.

054C- What system can provide an automated service in coastal waters where it may not be feasible to establish the NAVTEX service or where shipping density is too low to warrant its implementation?

a) SafetyNET™
b) AMVER
c) VHF DSC
d) ARQ SITOR

054D- Aboard ship, SafetyNET™ messages can be received by which equipment?

a) VHF DSC
b) NAVTEX Receiver
c) Dedicated receiver or optional receiver integrated in vessel's SES.
d) All of these

054E- SafetyNET™ messages can be received by which of the following shipboard equipment?

a) NAVTEX
b) MF and HF NBDP
c) EGC receiver
d) All of these

054F- Maritime Safety Information is promulgated via satellite through which system?

a) AMVER
b) SafetyNET™
c) NAVTEX
d) Inmarsat-M SES

Key Topic #054 Answer Key: A: a) B: b) C: a) D: c) E: c) F: b).

KEY TOPIC #055: SAFETYNET™-2: INFORMATION:

055A- SafetyNET™ promulgates what type of information?

a) MSI
b) Traffic Lists
c) News advisories
d) MARAD

055B- What kind(s) of broadcasts are not available through SafetyNET™?

a) MSI and messages to specific geographic areas.
b) Vessel traffic lists
c) Storm warnings
d) Distress and Urgency bulletins

055C- Which satellite system promulgates Maritime Safety Information?

a) AMVER
b) Inmarsat-C SafetyNET™
c) NAVTEX
d) Inmarsat-M SES

055D- What information is promulgated by the international SafetyNET™?

a) MSI
b) Traffic Lists
c) Priority Messages
d) MARAD

055E- A vessel using SafetyNET™ should:

a) Notify the NAVAREA coordinator you are using SafetyNET™ for MSI (Maritime Safety Information).
b) Set the receiver to your present NAVAREA.
c) Set the receiver to your destination Ocean Region.
d) Notify the NAVAREA coordinator you are using SafetyNET™ for MSI (Maritime Safety Information) and set the receiver to your destination Ocean Region.

055F- In using SafetyNET™ for MSI (Maritime Safety Information):

a) If you fail to log-in with your Ocean Region you will receive only unscheduled Urgency and Distress broadcasts.
b) To receive scheduled and unscheduled broadcasts you must log-in with your Ocean Region Network Coordination Station (NCS).
c) Your satellite receiver must have Enhanced Group Calling (EGC) capability.
d) All of these

Key Topic #055 Answer Key: A: a) B: b) C: b) D: a) E: b) F: d).

KEY TOPIC #056: EGC:

056A- Over what system are Enhanced Group Calls transmitted?

a) COSPAS satellite
b) HF SITOR shore stations
c) NAVTEX shore stations
d) Inmarsat satellite

056B- How are MSI (Maritime Safety Information) broadcasts received in an EGC receiver integrated with existing Inmarsat equipment when the SES is otherwise engaged in communications?

a) The broadcast message is missed and the Radio Operator must request a retransmission.
b) The broadcast message is stored in the EGC memory and will automatically be printed at the conclusion of the ongoing traffic.
c) The radio operator can request retransmission of messages missing from numeric serial number succession.
d) There is no loss of information since broadcasts of "vital" messages will be repeated.

056C- 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) NAVTEX
b) EGC
c) AFRTS
d) NAVAREAs

056D- What system may be useful for messages, such as local storm warnings or a shore-to-ship Distress alert, for which it is inappropriate to alert all ships in the satellite coverage area?

a) NAVTEX
b) EGC
c) AMVER
d) DSC

056E- What services are available through Enhanced Group Calls?

a) Maritime Safety Information and messages to pre-defined groups of subscribers.
b) Maritime Safety Information and vessel traffic lists.
c) Hourly NOAA weather broadcasts from the NWS.
d) Coastal weather broadcasts.

056F- What messages originate from registered information providers anywhere in the world and are broadcast to the appropriate ocean region via a CES?

a) SafetyNET^{TM} messages
b) AMVER broadcasts
c) Urgency messages
d) NAVTEX broadcasts

Key Topic #056 Answer Key: A: d) B: d) C: b) D: b) E: a) F: a).

KEY TOPIC #057: HF MSI:

057A- Which HF SITOR mode would be selected to receive MSI broadcasts from high seas shore stations:

a) AM
b) FEC
c) RTTY
d) ARQ

057B- The U.S. Coast Guard communications station providing HF MSI broadcast coverage for NAVAREA IV is:

a) NOJ (Kodiak)
b) NMF (Boston)
c) NMC (San Francisco)
d) NMO (Honolulu)

057C- The U.S. Coast Guard communications station providing HF MSI (Maritime Safety Information) broadcast coverage for NAVAREA XII is:

a) NMA (Miami)
b) NMF (Boston)
c) NMO (Honolulu)
d) NMR (San Juan)

057D- Frequencies for receiving HF MSI (Maritime Safety Information) are:

a) The same as used for NAVTEX
b) The same as used for general TELEX using FEC
c) Specified HF voice frequencies
d) Specified HF NBDP frequencies

057E- Which frequency/mode is authorized for use internationally for Maritime Safety Information transmissions?

a) 4125.0 kHz using simplex mode
b) 4209.5 kHz using FEC mode
c) 4209.5 kHz using ARQ mode
d) 4125.0 kHz using FEC mode

057F- How many frequencies are assigned specifically for HF MSI broadcasts?

a) 6
b) 5
c) 8
d) 7

Key Topic #057 Answer Key: A: b) B: b) C: c) D: d) E: b) F: c).

KEY TOPIC #058: NAVAREAS:

058A- Which NAVAREA is associated with the western North Atlantic and the Caribbean Sea?

a) NAVAREA IV
b) NAVAREA X
c) NAVAREA XI
d) NAVAREA XII

058B- Which NAVAREA is associated with the Pacific Ocean north of the equator and east of the International Date Line?

a) NAVAREA IV
b) NAVAREA X
c) NAVAREA XI
d) NAVAREA XII

058C- NAVAREAs referred to in NAVTEX are the same as used in:

a) INMARSAT SafetyNET™
b) GMDSS sea areas
c) International Vessel Traffic Service
d) INMARSAT ocean regions

058D- A vessel operating in the Western Atlantic or along the East coast of North America and Central America from Canada to Venezuela, including the Caribbean and Panama, would be located in which NAVAREA?

a) X
b) XI
c) IV
d) XIII

058E- A vessel operating in the Eastern Pacific or along the West coast of North and Central America from Alaska to Ecuador, including Panama and Hawaii, would be operating in which NAVAREA?

a) X
b) XI
c) XII
d) IV

058F- A vessel on a voyage between Miami and Los Angeles via the Panama Canal would be operating in which NAVAREA(s)?

a) II and III
b) IV and XII
c) IV and V
d) V and VI

Key Topic #058 Answer Key: A: a) B: d) C: a) D: c) E: c) F: b).

KEY TOPIC #059: INMARSAT-C POWER UP, SELF-TEST, CONTROLS AND INDICATOR LAMPS:

059A- Which of the following actions should be taken once the vessel is berthed and will not leave port again for several weeks?

a) The GMDSS Radio Operator must notify the NCS that the vessel will be off-line, and wait for the NCS to acknowledge with a confirmation number that must be logged.
b) The Inmarsat-C system can be powered down without taking additional steps once the GMDSS Radio Operator has ensured that all incoming SafetyNET™ messages have been received and stored.
c) The GMDSS Radio Operator must log out of the Inmarsat-C system.
d) The GMDSS Radio Operator must transmit an all-ships alert, to notify vessels within the satellite's footprint that the vessel will be off-line.

059B- What action should be taken on arrival at every port?

a) An Inmarsat-C system must be powered down.
b) Send a message to the NCS advising arrival in port.
c) Both of the above
d) None of the above

059C- With most Inmarsat-C systems what should the indicator lamps do when powering up?

a) The power on lamp should light and the others stay off until a message is received.
b) All lamps should illuminate in a particular sequence, as per the operator's manual.
c) All lamps should light and stay on.
d) All lamps should light except the RED light.

059D- Upon power-up, what controls are adjusted on an Inmarsat-C terminal?

a) The antenna Azimuth and Elevation controls.
b) The receiver gain is adjusted for maximum signal.
c) Both of the above
d) None of the above

059E- On an Inmarsat-C system, soon after power up, what might a blinking lamp indicate?

a) The system is not yet locked on to the NCS signal.
b) An EGC message is being received.
c) There is mail being received.
d) All of the above

059F- On an Inmarsat-C system an alarm sounds:

a) When first powered on.
b) When receiving Distress traffic.
c) Both of the above
d) None of the above

Key Topic #059 Answer Key: A: c) B: d) C: b) D: d) E: d) F: b).

KEY TOPIC #060: SELECTING AN INMARSAT OCEAN REGION:

060A- Which satellite(s) would most likely be selected for use when the vessel is operating off the eastern shore of the United States?

a) AOR-W
b) IOR
c) POR
d) Either AOR-W or IOR will work.

060B- Which satellite would be chosen when operating in the Eastern Gulf of Mexico?

a) AOR-W
b) IOR
c) POR
d) Any one of these

060C- Which longitude corresponds to the AOR-W satellite for Inmarsat-B/C communications?

a) 64.5E
b) 178E
c) 15.5W
d) 54W

060D- Which longitude corresponds to the AOR-E satellite for Inmarsat-B/C communications?

a) 64.5E
b) 178E
c) 15.5W
d) 54W

060E- Which longitude corresponds to the POR's satellite location for Inmarsat-B/C communications?

a) 64.5E
b) 178E
c) 15.5W
d) 54W

060F- Which longitude corresponds to the IOR's satellite location for Inmarsat-B/C communications?

a) 64.5E
b) 178E
c) 15.5W
d) 54W

Key Topic #060 Answer Key: A: a) B: a) C: d) D: c) E: b) F: a).

KEY TOPIC #061: INMARSAT: LOG-IN & LOG-OUT:

061A- Which action must be taken to ensure that incoming message traffic of all priority levels will be received through Inmarsat-C?

a) The system needs only to be commissioned and turned on.
b) No additional action is necessary after turning on the receiver and aiming the antenna at the desired satellite.
c) The GMDSS Radio Operator must log-in to the desired satellite.
d) The GMDSS Radio Operator must log-in to the desired satellite and receive the message reference number (MRN) from the CES.

061B- When logging into the Inmarsat system using Inmarsat-C, it is necessary to:

a) Enter your IMN.
b) Enter the CES answer back.
c) Select the Ocean Region.
d) Call the CES and inform them that you are now operating in the appropriate ocean region.

061C- What action should be taken on changing from one ocean region to another?

a) Power the system down and turn the power back on again.
b) Manually realign the antenna.
c) Log out of the current satellite and log in to the correct satellite.
d) Both a) and c) are correct

061D- The process of logging out involves the following:

a) Selecting the proper command from the correct menu.
b) Obtaining confirmation of log out from the NCS.
c) Both of the above
d) None of the above

061E- How do you determine that your Inmarsat-C terminal has accomplished a successful login?

a) The red panel lamp lights.
b) The green synch lamp starts flashing.
c) The green synch lamp turns on steady.
d) None of the above

061F- On many Inmarsat-C terminals, which of the following indicates a successful log-in?

a) A message is displayed on the screen indicating a successful log-in.
b) The printer may also print out a notice of a successful log-in.
c) Both of the above
d) None of the above

Key Topic #061 Answer Key: A: c) B: c) C: c) D: c) E: d) F: c).

KEY TOPIC #062: INMARSAT: GENERAL SYSTEM OPERATIONS:

062A- What is the primary function of an NCS?

a) To monitor and control communications through the Inmarsat satellite for which it is responsible.
b) To provide direct communications between the Inmarsat station placing a call and the station receiving the call.
c) To provide multi-mode communications between the Inmarsat station placing a call and the coast radio station that will deliver it.
d) To determine which satellite is best suited to provide communications between the Inmarsat station placing a call and the station receiving the call.

062B- What is the primary function of a CES?

a) To monitor and control communications through the Inmarsat satellite for which it is responsible.
b) To provide direct communications between the Inmarsat station placing a call and the station receiving the call.
c) To provide multi-mode communications between the Inmarsat station placing a call and the coast radio station that will deliver it.
d) To determine which satellite is best suited to provide communications between the Inmarsat station placing a call and the station receiving the call.

062C- Messages are transmitted by the CES according to what criteria?

a) First In, First Out
b) Last In, First Out
c) Priority, e.g. Distress, Urgency, Safety and Routine.
d) Serial Number

062D- How is maximum coverage provided by satellites in the maritime satellite service?

a) Four satellites in polar orbit.
b) Four satellites in geo-stationary orbit approximately 22,184 miles above the equator.
c) Four satellites in geo-stationary orbit for each Inmarsat Service (A, B, C and M).
d) Through coordinated use of COSPAS-SARSAT satellites.

062E- What is meant by the characters GA+ on an Inmarsat terminal?

a) General Address (to all stations)
b) Go ahead
c) The instruction to "give address"
d) None of these

062F- What is the purpose of a CODEC?

a) Noise and echo-canceling used in TELEX operation.
b) To digitize voice signals for transmission and convert digital signals to voice signals for reception.
c) To enable Distress communications.
d) To enable data communications.

Key Topic #062 Answer Key: A: a) B: b) C: c) D: b) E: b) F: b).

KEY TOPIC #063: INMARSAT: GENERAL SYSTEM OPERATIONS:

063A- What is an MRN?

a) Mobile Registration Number, provided by the FCC.
b) Message Reference Number, provided by the CES.
c) Mobile Registration Number, provided by IMO.
d) Vessel's call sign

063B- To keep the Inmarsat-B antenna pointing at the desired satellite, regardless of the ship's position and course, it has an input from the vessel's:

a) Operational radar
b) Automated Radar Plotting Aid (ARPA) equipped radar
c) Steering control system
d) Gyrocompass

063C- The Inmarsat telephone and TELEX communications channel usage scheme is:

a) Many ships on the same TELEX analog channel frequency and many ships on the same TDM telephone channel.
b) One ship per telephone channel and many ships per TELEX channel.
c) One ship per analog telephone channel and one ship per TELEX analog channel frequency.
d) One ship per channel whether telephone or TELEX.

063D- What is an Inmarsat "Subscriber Number"?

a) This identifies the vessel's selective calling (SELCALL) number.
b) This is the Inmarsat number that is assigned to a unit for incoming calls.
c) This is the vessel's Inmarsat registration number for accounting authority purposes.
d) This number is used for receiving news and other optional services in FleetNET^{TM}.

063E- Which of the following statements concerning Inmarsat geostationary satellites is true?

a) They are in a polar orbit, in order to provide true global coverage.
b) They are in an equatorial orbit, in order to provide true global coverage.
c) They provide coverage to vessels in nearly all of the world's navigable waters.
d) Vessels sailing in equatorial waters are able to use only one satellite, whereas other vessels are able to choose between at least two satellites.

063F- What is meant by "CES"?

a) Coast Earth Satellite
b) Coast Earth Station
c) Central Equatorial Station
d) Coastal Equivalent Station

Key Topic #063 Answer Key: A: b) B: d) C: b) D: b) E: c) F: b).

KEY TOPIC #064: INMARSAT-B: EQUIPMENT AND OPERATIONS:

064A- How is a signal radiated from an Inmarsat-B system's antenna?

a) It is a highly focused directional signal that must be beamed at the desired satellite.
b) It is usually radiated in an omni-directional pattern, but an optional feature allows it to be directional for use when the vessel is on the fringe of the satellite's footprint.
c) It is radiated in an omni-directional pattern.
d) It is radiated in an omni-directional pattern that can be reversed by the Operator to attain directional beaming to an alternate satellite.

064B- Which mode of Inmarsat-B communications may be possible with a lower received signal strength?

a) Fax
b) TELEX
c) Voice Communications
d) Binary computer file transfers

064C- What is the purpose of the second I.D. in an Inmarsat-B SES?

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

064D- What is the effect of having five periods (e.g.-meanwhile.....) in the text of a TELEX transmission on an Inmarsat-B SES?

a) Only the first period will be routed to the receiving party.
b) Only the first two periods will be routed to the receiving party.
c) The transmission will automatically terminate after those characters are transmitted.
d) This will automatically trigger the reversal of charges to the receiving party.

064E- Why is the automatic answerback request (WRU) first used by the CES after an Inmarsat-B TELEX call has been placed from a ship?

a) Identify the SES making the request.
b) Let the CES operator know the printer is functioning correctly.
c) Get the identity of the ship station and start the channel assignment process.
d) Verify that there is a good connection with no transmission errors.

064F- When engaging in voice communications via an Inmarsat-B terminal, what procedures are used?

a) Noise-blanking must be selected by the operator.
b) CODECs are used to digitize the voice signal.
c) The voice signal must be compressed to fit into the allowed bandwidth.
d) The voice signal will be expanded at the receiving terminal.

Key Topic #064 Answer Key: A: a) B: b) C: a) D: c) E: a) F: b).

KEY TOPIC #065: INMARSAT-C EQUIPMENT AND OPERATIONS:

065A- Which mode of communications is NOT possible through an Inmarsat-C SES?

a) Data
b) TELEX
c) Emergency Activation
d) Shore-to-ship Facsimile

065B- What is the average length of time required for a TELEX sent by Inmarsat-C to be delivered to the addressee?

a) All Inmarsat-C communications are made with real-time connectivity so there is no delay in message delivery.
b) The average delivery time for a message sent by Inmarsat-C is about 10 minutes.
c) Date/time notification of delivery is possible only through Inmarsat-B.
d) The average delivery time for a TELEX sent by Inmarsat-C is about 10 minutes, but fax and data messages sent by Inmarsat-C require about 30 minutes for delivery.

065C- How is a signal radiated from an Inmarsat-C system's antenna?

a) It is a highly focused directional signal that must be beamed at the desired satellite.
b) It is usually radiated in an omni-directional pattern, but an optional feature allows it to be directional for use when the vessel is on the fringe of the satellite's footprint.
c) It is radiated in an omni-directional pattern.
d) It is radiated in an omni-directional pattern that can be reversed by the Operator to attain directional beaming to an alternate satellite.

065D- What statement is true regarding Inmarsat-C?

a) There is a propagation delay, but a direct connection is made between the ship and shore users.
b) There are delays in establishing communications. Then a direct real-time connection is maintained with the other party.
c) This is a store and forward network, with an intermediate step that means there is no direct connection between ship and shore users.
d) The TELEX message is stored until the mailbox is accessed by the station desiring to retrieve their message.

065E- With an Inmarsat-C CES, how are messages routed to receiving stations?

a) Direct connections are made to the receiving stations via gateways.
b) All messages are forwarded via a store and forward network.
c) Intermediary stations are used to connect the sending station with the receiving station in a real-time mode.
d) Messages are stored until the network is polled by the receiving station.

065F- What are the directional characteristics of the Inmarsat-C SES antenna?

a) Highly directional parabolic antenna requiring stabilization.
b) Omni-directional.
c) Wide beam width in a cardioid pattern off the front of the antenna.
d) Very narrow beam width straight-up from the top of the antenna.

Key Topic #065 Answer Key: A: d) B: b) C: c) D: c) E: b) F: b).

KEY TOPIC #066: INMARSAT-C: EQUIPMENT & OPERATIONS:

066A- Which of the following best describes Inmarsat-C operation?

a) Is an analog-based system.
b) Requires a stabilized directional antenna.
c) Provides for voice, TELEX, high- and low-speed data and compressed video communications.
d) Is a digital store-and-forward system that also provides Enhanced Group Call, data reporting, polling and Distress alerting capabilities.

066B- Which of the following best describes a shipboard Inmarsat-C system?

a) A satellite communications system that provides real-time connectivity.
b) A small, lightweight terminal capable of providing satellite store-and-forward message communications.
c) A small, lightweight terminal used to transmit messages over high frequency (HF) bands to communicate through a satellite.
d) A satellite communications system that also provides continuous Digital Selective Calling coverage for all ocean regions.

066C- Which of the following modes of communications are available when using Inmarsat-C?

a) TELEX and e-mail
b) Fax
c) 14400 BPS Data
d) Voice

066D- Which mode of communication is possible through an Inmarsat-C SES?

a) SITOR
b) TELEX and e-mail
c) Radiotelephone
d) DSC

066E- It is possible to transmit all of the following via Inmarsat-C from a vessel except?

a) TELEX
b) Text for delivery by fax.
c) Voice
d) Comtex mail and x.400 data services

066F- Which of the following best describes the full range of services provided by the Inmarsat-C Satellite system?

a) Polling, enhanced group call, and one-way position and data reporting via satellite.
b) FM voice communications via satellite.
c) Two-way messaging and data communications on a store-and-forward basis.
d) Polling, enhanced group call, one-way position and data reporting via satellite, two-way messaging and data communications on a store-and-forward basis.

Key Topic #066 Answer Key: A: d) B: b) C: a) D: b) E: c) F: d).

KEY TOPIC #067: COMPARE & DIFFERENTIATE "B" & "C" TERMINALS:

067A- Which statement concerning Inmarsat-B and Inmarsat-C terminals is correct?

a) Both Inmarsat-B and Inmarsat-C units are capable of fax and voice communications.
b) Both Inmarsat-B and Inmarsat-C units can send data as well as send messages to fax machines.
c) Inmarsat-B units are not capable of data communications, but Inmarsat-C units are capable of data communications.
d) None of the above

067B- When Inmarsat-B and Inmarsat-C terminals are compared:

a) Inmarsat-B antennas are bulkier, but omni-directional, while Inmarsat-C antennas are smaller and parabolic, for aiming at the satellite.
b) Inmarsat-B antennas are parabolic and smaller for higher gain, while Inmarsat-C antennas are larger but omni-directional.
c) Inmarsat-C antennas are smaller, but omni-directional, while Inmarsat-B antennas are parabolic for lower gain.
d) None of the above

067C- Which statement concerning Inmarsat-B and Inmarsat-C terminals is correct?

a) Inmarsat-B terminals require gyro and GPS input, in order to enable automatic satellite tracking.
b) Inmarsat-C terminals require only GPS input, in order to enable automatic satellite tracking.
c) Inmarsat-B terminals require AZ/EL setup and gyro input, in order to enable automatic satellite tracking.
d) Inmarsat-C terminals require AZ/EL setup and GPS input, in order to enable automatic satellite tracking.

067D- When Inmarsat-B and Inmarsat-C terminals are compared:

a) Inmarsat-C antennas are smaller, with active parabolic antennas but no rewind capability.
b) Inmarsat-B antennas are larger, with passive non-parabolic antennas that require rewind capability.
c) Inmarsat-C antennas are smaller, with passive non-parabolic antennas but no rewind capability.
d) Inmarsat-B antennas are larger, with stationary parabolic antennas but no rewind capability.

067E- Which statement concerning Inmarsat-B and Inmarsat-C terminals is correct?

a) Both Inmarsat-B and Inmarsat-C units are subject to shadowing effects due to their omni-directional antennas.
b) Both Inmarsat-B and Inmarsat-C units are subject to shadowing effects, but Inmarsat-B units have directional antennas.
c) Both Inmarsat-B and Inmarsat-C units are subject to shadowing effects, but Inmarsat-C units have directional antennas.
d) Both Inmarsat-B and Inmarsat-C units are subject to shadowing effects, due to their directional antennas.

067F- When Inmarsat-B and Inmarsat-C terminals are compared:

a) Inmarsat-B units provide greater communications capabilities, with the benefits of greater size, weight, installation expense and initial cost.
b) Inmarsat-C provides lesser communications capabilities, with the trade-offs of greater size, weight, installation expense and initial cost.
c) Inmarsat-B units provide greater communications capabilities, with the trade-offs of greater size, weight, installation expense and initial cost.
d) Inmarsat-C units are of smaller size, weight, installation expense and initial cost and provide greater communications capabilities due to modern technology.

Key Topic #067 Answer Key: A: b) B: d) C: c) D: c) E: b) F: c).

KEY TOPIC #068: SELECTING C.E.S. & C.E.S. ID #:

068A- Which CES should a GMDSS Radio Operator select if his/her vessel is off the Pacific Coast of the United States?

a) Goonhilly
b) Anatolia
c) Santa Paula
d) RCC Alameda

068B- Which CES should a GMDSS Radio Operator select if his/her vessel is off the Atlantic Coast of the United States?

a) Southbury
b) Santa Paula
c) RCC New York
d) Anatolia

068C- Which CES should a GMDSS Radio Operator select if the vessel is off the Western Coast of Australia to update a Distress alert message?

a) Santa Paula
b) Perth
c) Fucino
d) Eik

068D- Which CES should a GMDSS Radio Operator select for routine traffic if the vessel is in the Caribbean Sea?

a) Beijing
b) Perth
c) Yamaguchi
d) Southbury

068E- Which Earth Station would a vessel be utilizing if operating off the Pacific Coast of the United States?

a) Goonhilly
b) Southbury
c) Santa Paula
d) KPH (San Francisco, CA)

068F- Which Earth Station would a vessel be utilizing if operating off the Atlantic Coast of the United States?

a) Southbury
b) Santa Paula
c) WCC (Chatham, MA)
d) Odessa

Key Topic #068 Answer Key: A: c) B: a) C: b) D: d) E: c) F: a).

KEY TOPIC #069: INMARSAT-B: ADDRESSING, DIALING SEQUENCE & VOICE:

069A- A vessel is operating in the Western Atlantic. To initiate a ship-to-shore telephone contact to a shoreside party in the U.S.A, number 123-456-7890, through the Southbury Earth Station, using automatic service, a valid Inmarsat dialing sequence is?

a) 118# 11234567890
b) #002 11234567890#
c) 001# 0011234567890#
d) 123 4567890

069B- A vessel is operating in the Eastern Atlantic. To initiate a ship-to-shore telephone contact to a shoreside party in the U.S.A., number 202-456-7890, through the Goonhilly Earth Station, using automatic service, a valid Inmarsat dialing sequence would be?

a) 001# 12024567890
b) 002# 0012024567890#
c) 001# 0012024567890#
d) 202 4567890

069C- Which key would be used to indicate the end of a manually dialed number in a telephone, facsimile or data call via an Inmarsat-B SES?

a) *
b) ENTER
c) +
d) #

069D- The U.S. Country Code for voice transmission is:

a) 011
b) 1
c) 001 for Southbury, 201 Santa Paula.
d) 581 for AOR-E, 582 for POR and 584 for AOR-W.

069E- If you are south of the Hawaiian Islands and wish to communicate by voice with another ship 200 miles due west of Lands End, UK. What is the proper procedure?

a) 001# 00871336670492#
b) 004# 11582430315036#
c) 001# 00851636824323#
d) 003+ 00581430326430+

069F- Which of the following is a correct dialing sequence for a vessel in the western Atlantic to send a FAX to a U.S. destination using an Inmarsat-B terminal?

a) 002# 110313
b) 001+ 110243674932+
c) 001# 0015036943254#
d) 001# 15036684376#

Key Topic #069 Answer Key: A: c) B: b) C: d) D: b) E: a) F: c).

KEY TOPIC #070: INMARSAT-B: ADDRESSING/DIALING SEQUENCE TELEX:

070A- Which key is used to indicate the end of a selection in a TELEX call via an Inmarsat-B SES?

a) *
b) ENTER
c) +
d) #

070B- Which number, if typed at an Inmarsat-B SES by a vessel in the Western Atlantic, would result in placing an automatic TELEX call to a subscriber number of 123456?

a) 00230123456#
b) 0012131234567#
c) 00230123456+
d) 00 1 213 1234567+

070C- Which of the following numbers is appropriate for an Inmarsat-B terminal placing a TELEX call via Southbury to another ship logged-in to the AOR-E?

a) 001+ 00584436824246+
b) 001+ 00581436824246+
c) 002+ 00584436824246+
d) 013+ 00581436824246+

070D- You are on a ship in the Pacific ocean. What keyboard entry would you make on an Inmarsat-B terminal to obtain a TELEX connection via Santa Paula to another ship that is 300 miles west of San Francisco?

a) 001# 00582430353680#
b) 003+ 00582430353680+
c) 001+ 00582336657450+
d) 002+ 00582336850450+

070E- What keyboard entry would you make on an Inmarsat-B terminal for an automatic TELEX connection to 882419 in Nebraska, USA (TELEX country code 230)?

a) 11230882419+
b) 00230882419#
c) 00230882419+
d) 00230882419

070F- Which of the following is a correctly formatted Inmarsat-B address for sending communications to a shoreside TELEX terminal number 440122 in the United Kingdom (TELEX country code 51)?

a) 51440122+
b) 51440122
c) (51)440122+
d) 51440122#

Key Topic #070 Answer Key: A: c) B: c) C: b) D: c) E: c) F: a).

KEY TOPIC #071: TWO DIGIT OPERATING CODES:

071A- What is the Inmarsat-B Service Code for automatic service?

a) 10
b) 11
c) 01
d) 00

071B- What keyboard entry is used, after entering the shore ID, to obtain the assistance of the international telephone operator in the Inmarsat-B service?

a) 00#
b) 01#
c) 10#
d) 11#

071C- What must be entered, after the Shore I.D. and "#" sign is entered and a ring-back tone is heard, to obtain the assistance of the national telephone operator in the Inmarsat-B service?

a) 00#
b) 01#
c) 10#
d) 13#

071D- What is the Inmarsat-B service code for the international telephone information operator?

a) 12#
b) 11+
c) 13#
d) 36#

071E- How would a Radio Operator of a vessel off the California Coast request Inmarsat Operator Assistance from the shore station via TELEX?

a) Dial 11# on the keypad after receiving the "bong" tone.
b) Type 00+ after receiving the GA+ from the LES Operator.
c) Type 11+ after receiving the GA+ from the LES Operator.
d) Type 001 after receiving the GA+ from the LES Operator.

071F- What dial sequence is used, after entering the shore ID, to place a call that will be billed to a credit card?

a) 36#
b) The digits 00 followed by the country code, the credit card number, the expiration date and ending with the "#" sign.
c) Credit card billing is impossible via Inmarsat.
d) The Shore I.D. and "#" sign followed by the digits 00, then the Country Code, subscriber's number and ending with the "#" sign.

Key Topic #071 Answer Key: A: d) B: d) C: d) D: a) E: c) F: a).

KEY TOPIC #072: INMARSAT-C: ADDRESSING TO SHIP TELEX:

072A- >From an Inmarsat-C terminal which of the following is a correctly formatted address for sending TELEX messages to a vessel in AOR-W?

a) 5841502773
b) 8741502773
c) 584436671929
d) Either a) or c) are correct, depending on the Inmarsat system addressed.

072B- Which of the following is a correctly formatted Inmarsat-C address book entry for sending TELEX communications to a vessel in the AOR-E?

a) 871436772983
b) 571436772983
c) 5811509952
d) 5811509952+

072C- 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) 872436559121
c) 582436559121+
d) 5821508862+

072D- Which of the following is a correctly formatted Inmarsat-C address book entry for sending TELEX communications to a vessel in the IOR?

a) 853446323868
b) 873446976519
c) 582446323868
d) 583446976519

072E- Which of the following is a correctly formatted Inmarsat-C address book entry for sending TELEX communications to a vessel in AOR-W?

a) 8541502927
b) 5841502927
c) 8741502927
d) 5841502927+

072F- Which of the following is a correctly formatted Inmarsat-C address book entry for sending TELEX communications to a vessel in the POR?

a) 582377125619
b) 5821506692
c) 582436377125
d) All may be correct, depending on the Inmarsat system addressed.

Key Topic #072 Answer Key: A: d) B: c) C: a) D: d) E: b) F: d).

KEY TOPIC #073: INMARSAT-C: ADDRESSING TO A LAND TELEX TERMINAL:

073A- Which of the following is a correctly formatted Inmarsat-C address book entry for sending communications to a shoreside TELEX terminal number 45992 in Taiwan (TELEX country code 769)?

a) (769)45992
b) 76945992+
c) 769 45992+
d) None of the above

073B- Which of the following is a correctly formatted Inmarsat-C address book entry for sending communications to a shoreside TELEX terminal number 440122 in the United Kingdom (TELEX country code 51)?

a) 51440122+
b) 51440122
c) (51)440122
d) 51440122#

073C- If your vessel is in the POR, which of the following is a correctly formatted Inmarsat-C address book entry for sending communications to a shoreside TELEX terminal number 42267 in Ecuador (TELEX country code 308)?

a) 30842267
b) 58230842267
c) 30842267+
d) (582)30842267

073D- Which of the following is a correctly formatted Inmarsat-C address book entry for sending communications to a shoreside terminal number 276992 in New Jersey via TRT (TELEX country code 238)?

a) 238276992
b) (238)276992
c) 238276992#
d) 238 276992+

073E- If your vessel is in the IOR, which of the following is a correctly formatted Inmarsat-C address book entry for sending communications to a shoreside TELEX terminal number 77829 in the Philippines (TELEX country code 758)?

a) 75877829+
b) 87375877829
c) 75877829
d) 58375877829

073F- If your vessel is in the AOR-E, which of the following is a correctly formatted Inmarsat-C address book entry for sending communications to a shoreside TELEX terminal number 776424 in Canada via the TWX system (TELEX country code 26)?

a) 58126776424
b) 26776424
c) 582776424
d) 26776424+

Key Topic #073 Answer Key: A: d) B: b) C: a) D: a) E: c) F: b).

KEY TOPIC #074: INMARSAT-C: ADDRESSING TO A SHORE (OR SHIP) FAX TERMINAL:

074A- Which of the following is a correctly formatted Inmarsat-C address book entry for sending communications to a fax machine on a vessel in the AOR-W?

a) 874336837925
b) 874436871225
c) 5841500292
d) 1 8741500292

074B- 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) 15162294339
c) 015162294339
d) 1 516-229-4339

074C- Which of the following is a correctly formatted Inmarsat-C address book entry for sending communications to a fax machine on a vessel in the AOR-E?

a) 581366269025
b) 871466269025
c) 5811504338
d) 8711504338

074D- Which of the following is a correctly formatted Inmarsat-C address book entry for sending communications to a fax machine number 1424-8821-902 in the United Kingdom (voice country code 44)?

a) 44 1424-8821-902
b) 4414248821902
c) 4414248821902#
d) 44+ 14248821902+

074E- Which of the following is a correctly formatted Inmarsat-C address book entry for sending communications to a fax machine on a vessel in the IOR?

a) 5831509987
b) 583442519372
c) 1873442519372
d) 8731509987

074F- Which of the following is a correctly formatted Inmarsat-C address book entry for sending communications to a fax machine number (045) 334-5678 in Japan (voice country code 81)?

a) 810453345678#
b) 81(045)3345678
c) 810453345678
d) 81 (045) 334-5678

Key Topic #074 Answer Key: A: a) B: b) C: d) D: b) E: d) F: c).

KEY TOPIC #075: INMARSAT DISTRESS COMMUNICATIONS:

075A- Which statement is false regarding a Distress request?

a) Any Distress request is automatically switched to an Inmarsat Distress working frequency.
b) If all satellite channels are busy, one of them will be preempted by a Distress request.
c) The NCS in each ocean region automatically monitors the processing of such calls by other CESs in that region, and processes calls if any anomaly exists in the system.
d) Any request message with Distress priority is automatically recognized by the CES and a satellite channel is instantly assigned.

075B- In what way(s) may a Distress message be initiated through Inmarsat?

a) All Inmarsat units must use a dedicated key that can be pressed for immediate action.
b) By adding the word "Distress" in the first line of the message's preamble.
c) By pressing dedicated key(s) for this purpose or using menu-driven features to produce a Distress priority message.
d) By transmitting the Distress message on the U.S. Coast Guard's dedicated monitoring channel.

075C- How is a Distress priority message ordinarily initiated on board the vessel?

a) By dialing the correct code on the telephone remote unit.
b) By pressing one or more dedicated "Distress key" on the equipment.
c) By contacting the CES operator, and announcing a Distress condition is in existence.
d) By contacting the CES operator using the radiotelephone Distress procedure "Mayday... etc.

075D- What must be done to disconnect an incoming TELEX message when voice Distress communications is desired via Inmarsat-B?

a) Depress the "Reset" switch to disconnect incoming message.
b) Depressing the "Distress" button automatically disconnects incoming messages.
c) It is necessary to wait until the incoming TELEX message has concluded, otherwise a system fault will occur.
d) Momentarily turn off the system power.

075E- Which of the following two-way communications can be made through Inmarsat without charge?

a) A service message that advises a vessel of other ship traffic in its vicinity.
b) SafetyNET^{TM}
c) Distress traffic
d) Vessel position information when the ship's GPS fails.

075F- How is ship to shore transmission of a Distress priority message in most SESs initiated?

a) By provision of a "Distress button" or code in the SES.
b) By including the priority code in the preamble of the TELEX message.
c) By including the priority code in the dialed number in voice communications.
d) By initial voice contact with the Rescue Coordination Center.

Key Topic #075 Answer Key: A: a) B: c) C: b) D: b) E: c) F: a).

KEY TOPIC #076: EGC:

076A- Upon receipt of SafetyNET™ messages of the Distress or Urgency category on the ship's EGC receiver, what action is required by the GMDSS Radio Operator?

a) No immediate action is required as an audible tone will be generated at the beginning and end of the transmission and a paper printout of the message will be generated.
b) Manually reset the alarm.
c) No immediate action is required by the operator since the transmission will be automatically acknowledged by the receiving vessel.
d) A periodic alarm tone will be heard until the radio operator prints the message from the unit's memory.

076B- What can be defined as the service that allows terrestrial information providers to send general information messages to pre-defined groups of subscribers?

a) SafetyNET™
b) COSPAS-SARSAT
c) InfoNET
d) FleetNET™

076C- What additional equipment provides the maximum availability for receiving SafetyNET™ broadcasts when the associated Inmarsat-C is being used for TELEX communications?

a) An integrated EGC receiver with the existing Inmarsat-C equipment.
b) A separate EGC receiver.
c) HF SSB can be used to receive voice MSI broadcasts.
d) Automatic switching between Inmarsat-C and EGC functions.

076D- What equipment is utilized to transmit Enhanced Group Calls?

a) COSPAS satellite
b) HF SITOR shore stations
c) NAVTEX shore stations
d) Inmarsat satellite

076E- What is the equipment arrangement that provides the maximum availability for reception of MSI broadcasts when using Inmarsat-C for TELEX communications?

a) Integrating EGC receiver with the existing Inmarsat-C equipment.
b) Separate EGC receiver.
c) Redundancy using HF SSB to receive voice broadcasts.
d) Automatic switching between Inmarsat-C and EGC functions.

076F- Which of the following statements concerning EGC configuration is false?

a) NAVAREA selection should be monitored and appropriately updated.
b) The originator of MSI information can specify receipt only by vessels within a specific geographical area, circular or rectangular.
c) The originator of MSI information cannot specify receipt only by vessels within a specific geographical area, circular or rectangular.
d) GMDSS operators generally can select additional NAVAREAS to acquire EGC messages of interest to the vessel.

Key Topic #076 Answer Key: A: b) B: d) C: b) D: d) E: b) F: c).

KEY TOPIC #077: INMARSAT EQUIPMENT FAULTS AND MAINTENANCE-1:

077A- A vessel with an 18-hour ETA to the Panama Canal on a voyage from Miami loses the ability to communicate via Inmarsat. The most likely cause is?

a) The vessel has sailed beyond the coverage area of the Southbury Shore Station.
b) The vessel has sailed beyond the coverage area of the Eastern Atlantic satellite.
c) The vessel has sailed beyond the coverage area of the Western Atlantic satellite.
d) An equipment fault.

077B- 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 Southbury Shore Station.
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 Pacific satellite.

077C- What can be the visual observation of a condition whereby it may be possible to initiate a reliable TELEX transmission but a voice transmission may not be possible?

a) An indication on a meter or on the display terminal of high transmit power.
b) An indication of a very high antenna elevation on the display terminal screen.
c) An indication that the antenna has reached its maximum travel in one direction.
d) An indication on a meter or on the terminal of low receiver signal strength.

077D- What maintenance function may the holder of a GMDSS Radio Operator license perform, or supervise the performance of, on an Inmarsat-C SES?

a) Adjust the station's EIRP.
b) Remove stack deposits and other debris from the radome preventing degraded performance.
c) Adjust a reference oscillator or synthesizer.
d) None of these

077E- What maintenance function may the holder of a GMDSS Radio Operator license perform, or supervise the performance of, on an Inmarsat-C SES?

a) Painting the radome.
b) Adjust the station's EIRP.
c) Adjust a reference oscillator or synthesizer.
d) Adjust any front panel controls.

077F- Which functions may the holder of a GMDSS Radio Operator License NOT perform on the Inmarsat-C equipment?

a) Optimize performance by adjusting the transmitter EIRP.
b) Maintain the antenna clear of soot, paint, etc.
c) Log-on, traffic and log-off functions.
d) Entry of position data and selection of CES.

Key Topic #077 Answer Key: A: d) B: d) C: d) D: b) E: d) F: a).

KEY TOPIC #078: INMARSAT EQUIPMENT FAULTS AND MAINTENANCE-2:

078A- What immediate remedy can be used to correct shadowing of the satellite signal by a shipboard obstruction?

a) Change the ship's course.
b) Relocate the mast or other obstruction.
c) Raise the transmit power level.
d) Increase the receiver gain.

078B- A vessel loses Inmarsat-B SES operation after a large course change. Which of the following could cause this?

a) System loses gyro follow-up or a gyro system malfunction.
b) Shadowing of the SES antenna by clouds or other weather formations.
c) Misalignment of the shadow correction filter.
d) None of these

078C- Which statement is correct regarding a method that a vessel experiencing problems with shadowing of the Inmarsat-B SES antenna by an on-board obstruction could use to attempt reliable communications?

a) Change course to make the communications.
b) Change the Coast Station ID programming.
c) Install a shadow correction filter.
d) Switch from TELEX to voice mode which requires lower signal strength for proper operation.

078D- Which of the following conditions can render Inmarsat-B communications impossible?

a) An obstruction, such as a mast, causing disruption of the signal between the satellite and the SES antenna when the vessel is steering a certain course.
b) A satellite whose signal is on a low elevation, below the horizon.
c) Travel beyond the effective radius of the satellite.
d) All of these

078E- A vessel is experiencing problems tracking the satellite in an Inmarsat-C SES. The problem could be:

a) Extremely heavy rain/snow storms.
b) Shadowing caused by an obstacle, such as a mast, between the SES antenna and the satellite.
c) The vessel is on the fringe of the coverage area of the satellite.
d) All of these

078F- Which functions may the holder of a GMDSS Radio Operator License perform on the Inmarsat-C equipment?

a) Selection of CES.
b) Maintain the antenna clear of soot, paint, etc.
c) Logon, traffic and logoff functions.
d) All of these

Key Topic #078 Answer Key: A: a) B: a) C: a) D: d) E: d) F: d).

KEY TOPIC #079: MF-HF CONTROLS: VOLUME, SQUELCH, POWER, FREQUENCY & MODE:

079A- Which modes could be selected to receive vessel traffic lists from high seas shore stations:

a) AM and VHF-FM
b) SSB and FEC
c) ARQ and FEC
d) VHF-FM and SSB

079B- MF/HF Transceiver Power levels should be set:

a) To the lowest level necessary for effective communications.
b) To the level necessary to maximize the propagation radius.
c) To the highest level possible so as to ensure other stations cannot "break-in" on the channel during use.
d) Both a) and c)

079C- Which statement regarding GMDSS MF/HF Transceiver frequency set-up is true:

a) Transmit and receive frequencies may be manually entered from the keypad.
b) ITU channels must be recalled from a database or memory.
c) All consoles allow both manual keypad entry and ITU channel recall from a database.
d) Depending on the manufacturer, either a) or b) could be true.

079D- Which statement regarding GMDSS MF/HF Transceiver frequency set-up is true:

a) Transmit and receive frequencies must always be manually entered from the keypad.
b) Transmit and receive frequencies must always be recalled from a database or memory.
c) Some consoles allow both manual keypad entry and ITU channel recall from a database or memory, while others do not.
d) None of the above

079E- To set-up the MF/HF Transceiver for a TELEX call to a coast station, the operator must:

a) Select J3E mode for proper SITOR operations.
b) Select F1B mode or J2B mode, depending on the equipment manufacturer.
c) Select F1B/J2B modes or J3E mode, depending on whether ARQ or FEC is preferred.
d) None of the above

079F- To set-up the MF/HF Transceiver for a voice call to a coast station, the operator must:

a) Select J3E mode for proper SITOR operations.
b) Select F1B mode or J2B mode, depending on the equipment manufacturer.
c) Select F1B/J2B modes or J3E mode, depending on whether FEC or ARQ is preferred.
d) Select J3E mode for proper voice operations.

Key Topic #079 Answer Key: A: b) B: a) C: d) D: c) E: b) F: d).

KEY TOPIC #080: MF-HF FREQUENCIES: SIMPLEX, DUPLEX & HALF-DUPLEX:

080A- How are paired NBDP frequencies normally used?

a) These are normally used for FEC communications with coast radio stations.
b) These are normally used for ARQ communications with coast radio stations.
c) These are normally used only for Distress communications to limit channel interference.
d) These are normally used for DSC communications with coast radio stations.

080B- How are paired SSB frequencies normally used?

a) These are normally used for FEC communications with coast radio stations.
b) These are normally used for ARQ communications with coast radio stations.
c) These are normally used for J3E communications with coast radio stations.
d) These are normally used for DSC communications with coast radio stations.

080C- For general communications purposes, paired frequencies are:

a) Normally used with private coast stations.
b) Normally used with public coast stations.
c) Normally used between ship stations.
d) Normally used between private coast and ship stations.

080D- For general communications purposes, simplex frequencies are:

a) Normally used between ship stations and private coast stations.
b) Normally used with public coast stations.
c) Normally used between ship stations.
d) Both a) and c) are correct.

080E- An ITU simplex channel frequency assignment is defined as:

a) Transmit and receive frequencies must be different.
b) Transmit and receive frequencies must be identical.
c) Transmit and receive frequencies may be different, depending on whether communications are ship-shore or ship to ship.
d) Transmit and receive frequencies are different regardless of emission mode.

080F- An ITU duplex channel frequency is defined as:

a) Transmit and receive frequencies may be identical if communications are ship-shore.
b) Transmit and receive frequencies must be identical.
c) Transmit and receive frequencies must be different.
d) Transmit and receive frequencies may be different if communications are ship-ship.

Key Topic #080 Answer Key: A: b) B: c) C: b) D: d) E: b) F: c).

KEY TOPIC #081: MF-HF: ITU CHANNELS:

081A- Which of the following defines "ITU Channel 1216"?

a) Ch-12 in the 16 MHz band.
b) Ch-1216 in the MF band.
c) Ch-16 in the 12 MHz 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.

081B- Which of the following is a valid 22-MHz ITU Channel?

a) HF Ch-2206
b) VHF Ch-22
c) Ch-22A when used for VTS communications.
d) Ch-70 (DSC only)

081C- What is meant by the term "ITU channel"?

a) This refers to a vessel's SELCALL number.
b) This refers to an internationally standardized assignment of frequency pairings for common use.
c) This refers to VHF channels 1-28 and 60-88.
d) None of the above.

081D- ITU channel 1604 would mean:

a) Ch-16 in the 4 MHz band.
b) Ch-4 in the 16 MHz band.
c) Ch-1604 in the MF band.
d) 1604 is the Channel number. It has no relevance to frequency bands.

081E- Which is a valid ITU Designation?

a) Ch-1604
b) Ch-706
c) "Approved for GMDSS Stations".
d) "Type Approved Under FCC Part 80 Rules and Regulations".

081F- ITU channels are:

a) Frequency assignments specific to U.S. vessels only.
b) VHF-FM frequencies.
c) International Traffic Utility frequencies.
d) Internationally standardized assignments of frequency pairs for common use.

Key Topic #081 Answer Key: A: c) B: a) C: b) D: b) E: a) F: d).

KEY TOPIC #082: MF-HF: VOICE & TELEX CHANNEL SEPARATION:

082A- Which statement regarding bandwidth and channel spacing is correct:

a) Channel spacing values are a function of bandwidth values.
b) Bandwidth values are a function of channel spacing values.
c) Channel spacing values are not a function of bandwidth values.
d) Bandwidth & channel values do not vary with emission mode.

082B- The purpose of ITU channel spacing is:

a) To maximize the number of voice & TELEX channels available.
b) To minimize the possibility of interference from adjacent channels.
c) To make most efficient use of the radio spectrum, by using voice channels rather than TELEX channels.
d) To make most efficient use of the radio spectrum, by using TELEX channels rather than voice channels.

082C-Which statement regarding channel spacing and bandwidth is true?

a) Voice bandwidth is greater than TELEX bandwidth and therefore voice channel spacing values are less than TELEX channel spacing values.
b) TELEX bandwidth is greater than voice bandwidth and therefore TELEX channel spacing values are less than voice channel spacing values.
c) Both TELEX bandwidth and channel spacing values are less than voice bandwidth and channel spacing values.
d) Both TELEX bandwidth and channel spacing values are greater than voice bandwidth and channel spacing values.

082D- The proper sequence of channel spacing from narrow to widest is:

a) SSB voice, NBDP SITOR, VHF-FM voice.
b) VHF-FM voice, NBDP SITOR, SSB-voice.
c) NBDP SITOR, VHF-FM voice, SSB-voice.
d) NBDP SITOR, SSB-voice, VHF-FM voice.

082E- Communications with an emission of F1B/J2B would typically have a channel spacing of:

a) 0.5 kHz
b) 0.3 kHz
c) 2.8 kHz
d) 3.0 kHz

082F- Communications with an emission of J3E would typically have a channel spacing of:

a) 0.5 kHz
b) 0.3 kHz
c) 2.8 kHz
d) 3.0 kHz

Key Topic #082 Answer Key: A: a) B: b) C: c) D: d) E: a) F: d).

KEY TOPIC #083: MF-HF: MODULATION, BANDWIDTH & EMISSIONS:

083A- For RF communications, "modulation" is best defined as:

a) The combination of information or intelligence with a carrier frequency.
b) Using a single carrier frequency with the proper power level.
c) Setting up the transceiver with the correct bandwidth to ensure proper communications.
d) The combination of the received frequency and oscillator frequency in the mixer.

083B-For RF communications, "bandwidth" is best defined as:

a) The modulation technique required to insure proper ITU channel spacing.
b) The emission designation resulting from the desired modulation technique.
c) The portion of the radio spectrum consumed by a particular emission selection and modulation technique.
d) The portion of the radio spectrum reserved for frequency allocations by the ITU.

083C- In an AM signal using voice:

a) Varying the amplitude of the carrier and employing both sidebands without the carrier.
b) There is a constant amplitude carrier with complex upper and lower sidebands varying in amplitude and frequency.
c) Varying only the amplitude of the carrier, depending on Double or Single-Sideband operations.
d) Varying the amplitude of the carrier and employing both sidebands and the carrier.

083D- In FM communications, the information is applied to the carrier by:

a) Varying the amplitude or the frequency of the carrier, depending on Double or Single-Sideband operations.
b) Varying the frequency of the carrier.
c) Varying only the frequency of the carrier, depending on Double or Single-Sideband operations.
d) Varying the amplitude of the carrier.

083E- The proper sequence of emissions corresponding to the sequence AM-Voice DSB, SSB-Voice without carrier, USB-Voice with carrier and FM-Voice, is:

a) A3E, H3E, J3E, F3E.
b) A3E, J3E, H3E, F3E.
c) J3E, H3E, A3E, F3E.
d) H3E, A3E, J3E, F3E.

083F- The proper sequence of emissions corresponding to the sequence SSB-Voice without carrier, USB-Voice with carrier, FM-Voice and SITOR TELEX is:

a) H3E, J3E, F3E, F1B.
b) J3E, H3E, F1B, F3E.
c) J3E, H3E, F3E, F1B.
d) H3E, J3E, F1B, F3E.

Key Topic #083 Answer Key: A: a) B: c) C: b) D: b) E: b) F: c).

KEY TOPIC #084: MF-HF VOICE OPERATIONS: CALLING A COAST STATION:

084A- When placing a SSB MF/HF call to a Coast Station, you should always:

a) Choose the closest station to ensure a quick connection.
b) Make sure the frequency is not occupied.
c) Tune the transmitter on another frequency.
d) Wait until the coast station sends his traffic list.

084B- How are high seas (HF) radiotelephone communications initially established between a vessel and a public correspondence station?

a) The vessel listens for "free signals" and calls the public correspondence station on the NBDP calling channel with the strongest marker signal.
b) The vessel calls the public correspondence station on VHF Channel 16, and the two stations then switch to the working channel.
c) Public Correspondence Stations operate NBDP only.
d) The vessel calls and establishes voice contact with the public correspondence station on a channel that the station is known to monitor, and the two stations then proceed with their business.

084C- What is the best procedure for calling another ship station using HF radiotelephone when the signals are weak but readable?

a) On a properly selected ITU channel, give the call sign of the ship being called three times using the ICAO alphabet, then "this is" followed by the call sign of the ship initiating the call three times, using the ICAO alphabet, and ending with "over."
b) Give the name of the ship being called three times, and the words "this is" followed by the name of the ship initiating the call three times, and ending with "over."
c) Instruct the nearest public correspondence station to add the desired ship's call sign to the station's traffic list.
d) Notify the local vessel traffic service control station of your intention to contact a specific vessel, and request the VTS operator place the call on channel 22A.

084D- What is the correct procedure for calling a coast radio station using HF radiotelephone?

a) On a properly selected ITU channel, give the name of the coast radio station being called three times, and the words "this is" followed by the name of the ship initiating the call three times, and ending with "over".
b) Contact the nearest U.S.C.G. station to add the desired ship's call sign to the station's traffic list.
c) On a correct ITU channel, give the call sign of the coast radio station three times using the ICAO alphabet, the words "this is", followed by the ship's call sign three times using the ICAO alphabet and ending with "over".
d) Request the VTS operator place the call on channel 22A.

084E- Through which coast radio station(s) may a U.S.-flag merchant vessel communicate?

a) Any coast radio station in the world that is licensed to provide such communications.
b) Any coast radio station in the world that is licensed to provide such communications, but prior authorization must be obtained for a U.S.-flag merchant vessel to communicate through a non-U.S. station.
c) The U.S. Coast Guard coordinates the communications and assigns the working channel.
d) U.S. flag ships are licensed to communicate only with U.S. coast radio stations.

084F- What is the best source of information to find changes or additions to the routine communications frequencies of a Commercial Radio Station?

a) ITU List of Coast Stations Part IV.
b) GMDSS Master Plan of Shore-Based Facilities.
c) FCC Part 80
d) ITU List of Ship Stations Part VII.

Key Topic #084 Answer Key: A: b) B: d) C: a) D: c) E: a) F: a).

KEY TOPIC #085: MF-HF: DSC CONTROLLER CALL PROGRAMMING:

085A- What is the purpose of the MF/HF DSC controller ?

a) It provides for the formatting and transmission of outgoing DSC calls.
b) It permits control of transceiver operations via an interface.
c) It provides the scanning watch receiver capability on the 6 MF/HF DSC frequencies.
d) Both a) and b) are crucial functions of the DSC Controller.

085B- A "Distress Hot Key" MF/HF DSC Distress alert:

a) Will be transmitted on 2187.5 kHz or another DSC frequency, depending on the manufacturer.
b) Will always be transmitted on 2187.5 kHz and 8414.5 kHz to trip DSC alarms on the mandatory MF/HF DSC watch frequencies.
c) Will always be transmitted on 2187.5 kHz to alert the nearest vessels and coast stations.
d) None of the above

085C- A Distress Priority DSC call may be formatted and transmitted specifying and requesting:

a) Nature of Distress, vessel position, follow-on frequency, only voice follow-on communications.
b) Nature of Distress or alternate frequency but not both in a single call, vessel position or alternate frequency/emission but not both in a single call, voice or TELEX follow-up communications.
c) Nature of Distress or alternate frequency but not both in a single call, vessel position or alternate frequency/emission but not both in a single call, only TELEX follow-up communications
d) Nature of Distress, vessel position, follow-on frequency, only TELEX follow-on communications.

085D- A multi-frequency MF/HF DSC Distress alert:

a) Must be transmitted in ascending order of propagation radius to alert nearby ships first.
b) May be transmitted on the mandatory MF/HF DSC watch frequencies first, and then on the others.
c) Either a) or b), depending on the manufacturer.
d) May be transmitted in any order programmed by the GMDSSS operator.

085E- To make a call to another vessel requesting voice communications regarding important company business, the GMDSS operator should:

a) Select Urgency priority, enter other vessel's MMSI, specify legal alternate frequency, F1B emission and transmit the properly formatted DSC call.
b) Select Routine priority, enter other vessel's MMSI, specify legal alternate frequency, J2B emission and transmit the properly formatted DSC call.
c) Select Routine priority, enter own vessel's MMSI, specify legal alternate frequency, J3E emission and transmit the properly formatted DSC call.
d) None of the above

085F- To make a call to another vessel requesting TELEX communications regarding important company business, the GMDSS operator should:

a) Select Routine priority, enter other vessel's MMSI, specify legal alternate frequency, F1B emission and transmit the properly formatted DSC call.
b) Select Urgency priority, enter other vessel's MMSI, specify legal alternate frequency, F1B emission and transmit the properly formatted DSC call.
c) Select Routine priority, enter own vessel's MMSI, specify legal alternate frequency, F1B emission and transmit the properly formatted DSC call.
d) Select Routine priority, enter other vessel's SELCALL for TELEX specify legal alternate frequency, F1B emission and transmit the properly formatted DSC call.

Key Topic #085 Answer Key: A: d) B: a) C: b) D: c) E: d) F: a).

KEY TOPIC #086: MF-HF SITOR-NBDP #1: DEFINITIONS:

086A- What is meant by the acronym ATOR?

a) Automatic TELEX Over Radio
b) AMVER Transmittals Over Radio
c) Amateur TELEX Over Radio
d) None of the above

086B- Which of the following acronyms refers to a communications system that does not include data in its emission.

a) NAVTEX
b) SITOR
c) SART
d) NBDP

086C- What does the term FEC mean in SITOR communications?

a) Field Effect Correction
b) Forward Error Check
c) Forward Error Character
d) Forward Error Correction

086D- What term is nearly synonymous with ATOR?

a) NAVTEX
b) SITOR
c) AMTOR
d) NBDP

086E- The acronym SITOR stands for:

a) Simplified Telephony Over Radio
b) Simplex TELEX Over Radio or Simplex Teleprinter over Radio
c) Simplified TELEX Over Radio
d) Simplex Telephony Over Radio

086F-What does the term "ARQ" mean in SITOR operations?

a) Automation Repeat Request
b) Automatic Repeat Request
c) Automaton Repeat Request
d) Automatic Request Repeat

Key Topic #086 Answer Key: A: a) B: c) C: d) D: b) E: b) F: b).

KEY TOPIC #087: MF-HF SITOR-NBDP #2: TECHNICAL CHARACTERISTICS:

087A- Which of the following statements concerning SITOR communications is true?

a) ARQ transmissions are made in data groups consisting of three-character blocks.
b) ARQ transmissions are acknowledged by the Information Receiving Station only at the end of the message.
c) ARQ communications rely upon error correction by time diversity transmission and reception.
d) Forward error correction is an interactive mode.

087B- Which of the following statements concerning SITOR communications is true?

a) FEC transmissions are made in data groups consisting of three-character blocks.
b) FEC transmissions require a "phasing" or "handshaking" process prior to character transmission.
c) FEC transmissions rely upon an error correction technique, which transmits each character twice.
d) FEC transmissions rely upon parity and "repeat requests" to ensure error correction.

087C- Which statement best defines the SITOR acronym "ARQ"?

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

087D- Which statement best defines the SITOR acronym "FEC"?

a) Error correction for one-way TELEX broadcasts of weather or navigation information.
b) Error Correction when 2 stations are in direct & phased telephone communications with each other.
c) Error Correction when 2 stations are in direct & phased TELEX communications with each other.
d) None of the above

087E- The purpose of "parity" in SITOR communications is?

a) Error correction in FEC weather and navigational broadcasts.
b) Error correction in ARQ communications.
c) Error correction in NAVTEX broadcasts.
d) All of the above are true

087F- "SITOR" communications are based on a digital code system:

a) Consisting of 7 bits, with four ones and three zeros.
b) Consisting of 7 bits, with four zeros and three ones.
c) Consisting of 5 bits TELEX and 8 bits Fax.
d) Consisting of 5 bits for ship stations and 7 bits for shore stations.

Key Topic #087 Answer Key: A: a) B: c) C: d) D: a) E: d) F: b).

KEY TOPIC #088: MF-HF ARQ OPERATION #1: CALLING A COAST STATION:

088A- Which of the following would be a valid SELCALL for use in ARQ communications?

a) 1106
b) 212420 WHAQ X.
c) Four marks (ones) and three spaces (zeroes) forming the binary signal "1001101".
d) This is established by the communications protocol used with the modem.

088B- Once ARQ communication with the coast radio station has been established, which of the following exchanges will most likely take place?

a) The vessel then requests the coast radio station's SELCALL so that communication can be set up on the appropriate working channel.
b) Since communication has already shifted to the working channel, the vessel then transmits the subscriber number and text of the message to be sent for the coast radio station to store and forward.
c) After exchanging answer-backs (WRU-AAB) with the vessel, the coast radio station transmits GA+?.
d) None of the above

088C- Which of the following methods will give a GMDSS Radio Operator the best indication of whether ARQ communication can be established with a coast radio station?

a) Referring to propagation charts will tell the Operator when the eruption of communication shattering solar flares will occur.
b) Selecting a frequency in the MF band averts interference from severe static discharges.
c) Monitor the coast radio station's "free signals" and call on the frequency on which the loudest and most consistent signals are heard.
d) Re-position the radome's antenna toward the coast radio station and press the "call request" button.

088D- When placing a TELEX call to a Coast Station, you should always:

a) Choose the closest station.
b) Make sure the frequency is not occupied with normal traffic.
c) Tune the transmitter on another frequency.
d) Wait until the coast station sends his traffic list.

088E- What is the best method for a GMDSS Radio Operator to determine which SITOR station to contact for the purpose of sending a chargeable message or cable?

a) Listen to each station's voice announcement and determine which channel(s) will be monitored.
b) Listen to each station's ″free signals″ and call the station generating the loudest marker.
c) Listen to each station's MSI broadcast to determine which public correspondence station to contact.
d) Listen to the U.S. Coast Guard's traffic list to determine which Coast Guard station will handle commercial traffic.

088F- Which statement is correct regarding HF NBDP under GMDSS?

a) Safety communications by direct-printing telegraphy should be in the ARQ mode when communicating with the U.S. Coast Guard or other coast stations on channels that they normally guard.
b) Distress communications other than directly to the Coast Guard or other coast stations on the channels that they normally guard, should be in the broadcast SSB mode.
c) The ARQ mode may not be used subsequently to the FEC mode even when it is advantageous to do so.
d) Distress communications other than directly to the Coast Guard or other coast stations on the channels that they normally guard, should be in the broadcast FEC or SSB mode.

Key Topic #088 Answer Key: A: a) B: c) C: c) D: b) E: b) F: a).

KEY TOPIC #089: MF-HF ARQ OPERATION #2: ANSWERBACKS:

089A- After establishing contact with a Coast Station on an available channel, which of the following exchanges take place?

a) The vessel will request the shore station's answerback to confirm it has reached the correct station, then the shore station operator will request billing authorization.
b) The ship station begins transmitting the text.
c) After exchanging answer-backs (WRU/AAB) the coast station transmits GA+?.
d) None of these

089B- During SITOR ARQ operations through a coast station, what should the GMDSS operator do during the "Automatic Exchange of Answerbacks"?

a) Send a "WRU" then a "Here is" when requested by the coast station.
b) Do nothing other than wait for a GA+? prompt.
c) Send the necessary message file and then wait for time and charges.
d) None of the above

089C- Assuming sending a direct TELEX message to a shore-based office, which sequence of events best describes a complete ARQ TELEX exchange with a coast station?

a) Initiate call, observe phasing, wait for exchange of answer-backs (WRU-AAB), send message, send KKKK to terminate the TELEX link, receive MRN & time and charges.
b): Initiate call, observe phasing, wait for exchange of answer-backs (WRU-AAB), send DIRTLX command with zero, TELEX country code, TELEX number, send message, send KKKK to terminate the TELEX link, receive MRN and time and charges.
c) Initiate call, observe exchange of answer-backs (WRU-AAB), send message, send KKKK to terminate radio link, receive MRN & time and charges.
d) Initiate call, observe phasing, exchange of answer-backs (WRU-AAB), send message, send KKKK to terminate radio link, receive MRN & time and charges.

089D- 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, wait for exchange of answer-backs (WRU-AAB), OPR+, operator entry of the appropriate automatic TELEX code.
b) Transceiver setup, wait for exchange of answer-backs (WRU-AAB), OPR+, operator entry of the appropriate automatic TELEX code.
c) Transceiver setup, SELCALL selection, Initiate Call, wait for exchange of answer-backs (WRU-AAB), GA+?, enter DIRTLX xy+, MOM, MSG+? and exchange of terminal answerbacks.
d) Transceiver setup, wait for exchange of answer-backs (WRU-AAB), GA+?, operator entry of the appropriate automatic TELEX code.

089E- 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 automatic exchange of answerbacks is interrupted by keyboard entries.
c) If either a) or b) takes place
d) If the operator enters "KKKK".

089F- 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 automatic exchange of answerbacks is interrupted by keyboard entries.
c) If the operator enters "BRK+".
d) If any of the above actions takes place.

Key Topic #089 Answer Key: A: c) B: b) C: b) D: c) E: c) F: d).

KEY TOPIC #090: MF-HF ARQ OPERATION #3: OPERATING CODES & PROCEDURES:

090A- Which of the following keystrokes or characters is sent as part of ARQ communications to end the radio link?

a) NNNN
b) KKKK
c) BRK+
d) . . . . .

090B- Which of the following keystrokes or characters is sent as part of ARQ communications to signal the end of communications with a land based TELEX terminal?

a) NNNN
b) KKKK
c) BRK+
d) . . . . .

090C- What character(s) are transmitted to switch control from a station currently transmitting, over to the receiving station during ATOR communications in the ARQ mode?

a) +?
b) +
c) ENTER
d) END

090D- Which character(s) must follow most command codes to a coast station using ATOR?

a) +
b) #
c) *
d) GA+?

090E- Which character(s) are sent by the shore station to indicate it has shifted control to, and is awaiting instructions from, the vessel?

a) WRU
b) GA+?
c) KKKK
d) **. . . . .**

090F- All country codes which are transmitted by MF/HF SITOR are preceded by which character(s)?

a) 0
b) 00
c) +
d) DIR

Key Topic #090 Answer Key: A: c) B: b) C: a) D: a) E: b) F: a).

KEY TOPIC #091: MF-HF ARQ OPERATION #4: OPERATING CODES & PROCEDURES:

091A- Which of the following keystrokes or characters is sent as part of ARQ communications to switch information transmission control from one station to the other?

a) +?
b) +
c) ENTER
d) END

091B- Which of the following keystrokes or characters follows most commands in ARQ communications when working an automated Coast Station?

a) +
b) GA+?
c) ENTER
d) END

091C- Which characters are sent by the ship station when operating HF TELEX, to indicate a desire to send an AMVER message?

a) MSG+
b) DIRTLX+
c) AMV+
d) OPR+

091D- Which characters are sent by the ship station to indicate a desire to send a message via a direct connection to a shoreside TELEX subscriber?

a) MSG+
b) DIRTLX0xxyyyy+
c) AMV+
d) OPR+

091E- What is the procedure used to terminate the radio circuit?

a) END
b) CTRL-ALT-DELETE
c) BRK+
d) Power off the TELEX printer.

091F- What are the characters that are transmitted to terminate a direct TELEX connection in SITOR operation?

a) **. . . . .**
b) KKKK
c) END+
d) EOM

Key Topic #091 Answer Key: A: a) B: a) C: c) D: b) E: c) F: b).

KEY TOPIC #092: MF-HF ARQ OPERATION #5: TECHNICAL CHARACTERISTICS:

092A- Which of the following statements concerning SITOR communications is true?

a) In ARQ, each character is transmitted twice, about 250 milliseconds apart.
b) In ARQ, the "information sending station" transmits a block of three characters twice, about 250 milliseconds apart.
c) In ARQ, the "information sending station" will transmit a block of three characters that the receiving station will subsequently acknowledge or request be retransmitted.
d) SITOR communications can be used to contact a NAVTEX transmitting station when requesting a repeat transmission of a missed NAVTEX message.

092B- What statement is true regarding the exchange between two parties engaged in SITOR communications?

a) In ARQ, each character is transmitted twice, with the second displaced in time from the first.
b) In ARQ, the "sending" station transmits a block of three characters and the "receiving" station responds with a one character Repeat Request. Following this the "transmitting" station will send a new block.
c) In ARQ, the ISS transmits a block of 3 characters and the IRS checks for parity. If the received block is correct a one-character control signal is sent notifying the ISS to proceed with the next block. If the parity check fails the block must be resent.
d) Broadcasts of Maritime Safety Information, traffic lists, etc. can be copied by the receiving station in ARQ mode.

092C- Of the following, which is true of SITOR ARQ mode direct printing radioteletype transmission?

a) Each data block consists of three characters.
b) The acceptance code consists of three characters.
c) A continuous data stream is transmitted.
d) Forward error correction reduces the number of errors.

092D- Which of the following is true of SITOR ARQ mode?

a) This is an interactive mode.
b) Each character is repeated three times.
c) Each character is transmitted twice.
d) This mode is generally used to broadcast messages.

092E- In ARQ, when the information sending station (ISS) receives a signal that the parity check failed what happens?

a) The last block will be resent.
b) The next block will be sent.
c) The data link will break.
d) The acknowledge light should illuminate.

092F- Which of the following is true of SITOR ARQ mode:

a) The ship station sends a group of 3 characters twice and then waits for an "RQ" signal to indicate proper receipt before continuing transmission.
b) The Ship station sends each character twice, using a time diversity system to ensure proper parity.
c) The ship station sends a group of 3 characters, the shore station checks for proper parity and then requests the same group be resent to enable error correction.
d) The ship station sends a group of 3 characters, the shore station checks for proper parity. If parity is OK, the shore station indicates readiness for transmission of the next 3 characters.

Key Topic #092 Answer Key: A: c) B: c) C: a) D: a) E: a) F: d).

KEY TOPIC #093: MF-HF ADDRESSING MODES: DIRTLX, STORE-FORWARD, ETC:

093A- Which of the following keystrokes or characters is sent as part of ARQ communications to request a direct TELEX call to a shore-based location?

a) MSG+
b) GA+?
c) ENTER
d) DIRTLX023123456+

093B- The DIRTLX command should be given to a coast station at what point in time?

a) Immediately following the automatic exchange of answerbacks.
b) After receipt of the Go Ahead indication followed by the automatic exchange of answerbacks.
c) Sent at the beginning of the message to request a direct TELEX connection.
d) After receipt of the Go Ahead indication following the automatic exchange of answerbacks.

093C- Which automatic TELEX command should be sent by a ship station during SITOR operations to properly address a weather report to the national weather authority?

a) WX+ followed by the text of the report.
b) OBS+
c) OBS+ then MSG+ to indicate weather report.
d) GA+? then OBS+

093D- Which of the following would be a valid automatic TELEX code and number for a request for a real-time TELEX connection to a shore-based TELEX terminal?

a) DIRTLX023424998+.
b) DIRTLX then waits for MSG+ to dial 023419645+.
c) DIRTLX23122445+.
d) DIRTLX followed by GA+? and the TELEX number.

093E- When requesting a direct TELEX connection to a vessel's Inmarsat-B terminal, (i.e. making a SITOR call to an Inmarsat-B unit) the GMDSS operator must:

a) DIRTLX, 00, Ocean Area Code, TELEX number, +.
b) DIRTLX, 0, Ocean Area Code, TELEX number, +.
c) DIRTLX, 0, Country code, TELEX number, +.
d) None of the above

093F- To correctly address a SITOR message and transmit it "live" to a shore-based office the GMDSS operator would dial which sequence:

a) DIRTLX051440344+
b) DIRTLX0051440344+
c) DIRTLX581440344+
d) DIRTLX05811500260+

Key Topic #093 Answer Key: A: d) B: d) C: b) D: a) E: b) F: a).

KEY TOPIC #094: MF-HF FEC OPERATION #1:

094A- 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) Weather broadcasts cannot be made in FEC because sending each character twice would cause the broadcast to be prohibitively long.
d) None of the above

094B- Which of the following is true of SITOR Mode B (FEC), in the presence of static crashes.

a) Data flow rate depends on signal propagation.
b) Idle characters are sent upon request.
c) Transmitter and receiver cannot synchronize.
d) FEC reduces the error rate by transmitting each character twice.

094C- Which of the following statements concerning SITOR communications is true?

a) FEC requests are first acknowledged by the vessel's transmitter before broadcasts can be received.
b) FEC mode broadcasts can be received without the transmitter being turned on.
c) Weather broadcasts are always made in ARQ mode to ensure reception.
d) None of these

094D- The sequence ARQ, FEC, SFEC best corresponds to which of the following sequences?

a) One-way communications to a single station, one-way communications to all stations, two-way communications.
b) One-way communications to all stations, two-way communications, one-way communications to a single station.
c) Two way communications, one-way communications to all stations, one-way communications to a single station.
d) Two way communications, One way communications to a single station, One way communications to all stations.

094E- The sequence BFEC, SFEC, ARQ best corresponds to which of the following sequences?

a) One-way communications to a single station, one-way communications to all stations, two-way communications.
b) One-way communications to all stations, two way communications, one-way communications to a single station.
c) Two way communications, one-way communications to all stations, two-way communications.
d) None of the above

094F- Selective FEC communications (SFEC) are employed when:

a) Multiple stations without a group SELCALL must receive communications without using their transmitters (Radio Silence).
b) Multiple stations must receive communications by using their transmitters to achieve phasing.
c) An individual station must receive communications without using any transmitters (Radio Silence).
d) An individual station must receive communications by using their transmitter to achieve phasing and block other stations from breaking in.

Key Topic #094 Answer Key: A: b) B: d) C: b) D: c) E: d) F: c).

KEY TOPIC #095: MF-HF: FEC OPERATION #2:

095A- If the vessel is within range of NAVTEX broadcasts and both the Inmarsat-C and the NAVTEX receiver are inoperative the GMDSS operator should:

a) Select 518 kHz ARQ TELEX on the MF/HF console to receive MSI.
b) Request repairs of the Sat-C system and wait until within range of NAVTEX.
c) Select an HF MSI frequency and ARQ TELEX mode to receive MSI.
d) Select 518 kHz FEC TELEX on the MF/HF console to receive MSI.

095B- If the vessel is beyond range of NAVTEX broadcasts and the Sat-C system fails, the GMDSS operator must:

a) Select 518 kHz ARQ TELEX on the MF/HF console to receive MSI.
b) Request repairs of the Sat-C system and wait until within range of NAVTEX.
c) Select an HF MSI frequency and FEC TELEX mode to receive MSI.
d) Select 518 kHz FEC TELEX on the MF/HF console to receive MSI.

095C- If the vessel is experiencing atmospheric interference with NAVTEX broadcasts, especially in the tropics, the GMDSS operator should:

a) Select one of the 6 HF MSI frequencies and set-up the transceiver in ARQ TELEX mode.
b) Select one of the 6 MF MSI frequencies and set-up the transceiver in FEC TELEX mode.
c) Select one of the 8 HF MSI frequencies and set-up the transceiver in FEC TELEX mode.
d) Select the MF MSI frequency dedicated to tropical MSI and set-up the transceiver in FEC TELEX mode.

095D- Why must the GMDSS operator be able to set-up FEC & ARQ modes and differentiate between them?

a) The proper mode must be selected for reception of HF MSI.
b) The proper mode must be selected for follow-on TELEX communications in a Distress situation.
c) The ARQ TELEX mode must be selected for follow-on TELEX communications in a Distress situation and the FEC TELEX mode selected for reception of HF MSI.
d) Both a) and b) are correct

095E- FEC SITOR transmissions might be used to?

a) Receive Coast station traffic lists, NAVTEX and VHF MSI broadcasts.
b) Send and receive Distress TELEX communications, receive HF MSI and NAVTEX.
c) Receive weather messages or Coast Station traffic lists.
d) Either b) or c) might be possible

095F- FEC NBDP transmissions are normally used to?

a) Receive Coast station traffic lists, NAVTEX and VHF MSI broadcasts.
b) Receive HF MSI and NAVTEX.
c) Receive weather messages, Coast Station traffic lists and company messages.
d) None of the above

Key Topic #095 Answer Key: A: d) B: c) C: c) D: d) E: d) F: b).

KEY TOPIC #096: MF-HF PROPAGATION #1: DAYTIME, NIGHT TIME, WINTER & SUMMER:

096A- The "short rules" of propagation necessary to select the appropriate frequency band are:

a) Shorter distance = Higher Frequency, Daytime = Higher Frequency.
b) Shorter distance = Higher Frequency, Daytime = Lower Frequency.
c) Shorter distance = Lower Frequency, Daytime = Higher Frequency.
d) Shorter distance = Lower Frequency, Daytime = Lower Frequency.

096B- GMDSS operators should learn which of the following propagation "rules of thumb"?

a) Longer distance = lower frequency, Shorter distance = higher frequency; Daytime = higher frequency, nighttime = lower frequency.
b) Longer distance = lower frequency, Shorter distance = lower frequency, Daytime = lower frequency, nighttime = higher frequency.
c) Longer distance = higher frequency, Shorter distance = lower frequency, Daytime = higher frequency, nighttime = lower frequency.
d) Longer distance = higher frequency, Shorter distance = higher frequency, Daytime = lower frequency, nighttime = higher frequency.

096C- What would be the most appropriate HF bands for communicating from San Francisco to Taiwan or the Philippines?

a) 16 or 22 MHz when daylight at each end and 8 MHz when dark at each end.
b) 12 MHz during daylight at each end and 2 MHz when dark at each end.
c) 8 MHz during daylight hours and 16 MHz during darkness.
d) 6 MHz during daylight hours and 8 MHz during darkness.

096D- GMDSS operators should routinely focus on the factors affecting propagation in what priority?

a) Distance & time of day, seasonal variations, sunspot cycle, solar flare alerts.
b) Sunspot cycle, distance & time of day, seasonal variations, solar flare alerts.
c) Solar flare alerts, distance & time of day, sunspot cycle, seasonal variations.
d) Solar flare alerts, sunspot cycle, seasonal variations, distance & time of day.

096E- Which statement concerning frequency band selection and propagation most corresponds with standard practice.

a) Maximum Usable Frequency (MUF) and Optimum Usable Frequency (OUF) should be calculated prior to setting up the transceiver.
b) Propagation rules, Sunspot cycle status and seasonal variations (winter & summer) must always be employed to calculate the proper band selection.
c) Propagation "rules of thumb" are usually sufficient for routine operations.
d) Propagation "rules of thumb" should be combined with Solar flare alerts to determine band selection.

096F- To ensure effective communications, GMDSS operators should:

a) Rely on the equipment calculations of Optimum Usable Frequency.
b) Employ the short rules of propagation selection.
c) Rely on previous successful communications on the selected frequency band.
d) Taken together, both b) and c) are good operational practices.

Key Topic #096 Answer Key: A: c) B: c) C: a) D: a) E: c) F: d).

KEY TOPIC #097: MF-HF PROPAGATION #2: DAYTIME, NIGHT TIME, WINTER & SUMMER:

097A- A ship has been communicating effectively on 16 MHz during daylight hours with a shore station at a distance of 3500 miles. Toward late afternoon and evening what effect would be noticed?

a) Communications should be maintained with slight improvement in the signal received from the shore station.
b) The gray line effect will prevent communications after dark.
c) Communications should gradually deteriorate and become impossible on this frequency at night.
d) Communications should improve and peak at night.

097B- A ship at anchor has been communicating marginally with a shore station approximately 200 miles distant on a frequency in the 4 MHz band periodically throughout the day. Toward the late afternoon and evening, what effect should be noticed?

a) Communications should be maintained with slight improvement in the signal received from the shore station.
b) Communications should slowly deteriorate but may be continued throughout the night.
c) Communications should gradually deteriorate and become impossible on this frequency by night.
d) Communications should gradually improve and peak at night and early morning.

097C- At mid-day in the summer, what would be the best choice in attempting to communicate, using NBDP with a shore station some 1800 miles distant?

a) VHF-FM
b) Higher HF bands
c) Lower HF bands
d) MF

097D- At mid-night, what would be the best choice in attempting to communicate, using NBDP with a shore station some 800 miles distant?

a) VHF-FM
b) Higher UHF bands
c) HF bands
d) Communications are impossible at this distance.

097E- At mid-day, what would be the best choice in attempting to communicate with a shore station some 75 miles distant?

a) VHF-FM
b) 22 MHz band
c) 16 MHz band
d) MF

097F- How can a GMDSS operator determine the best frequency band to choose for a SITOR transmission to a shore station?

a) By consulting propagation tables.
b) If static interference is present, try lower bands first.
c) Listen to shore station "free signals" and choose the band with the strongest signal.
d) During nighttime, choose higher frequencies. Choose lower frequencies in the daytime.

Key Topic #097 Answer Key: A: c) B: d) C: b) D: c) E: d) F: c).

KEY TOPIC #098: MF-HF: DSC CONTROLLER ALERT/CALL RESPONSE:

098A- 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 Transmitted Data Directory.
c) Both a) and d) are correct
d) Examine the Received Data Directory.

098B- A DSC Distress call is received by your vessel and your transceiver frequency display reads: Transmit = 4207.5 kHz and Receive = 4207.5 kHz -- what information can you infer from this?

a) The DSC controller decoded the requested voice frequency as 4207.5 kHz simplex and your DSC controller has automatically set-up your transceiver.
b) The DSC controller decoded the contents of the DSC call but the request is illegal.
c) Both a) and b) are true
d) The DSC call came in on 4 MHz DSC. You should set-up your transmitter and respond on the appropriate voice follow-on frequency.

098C- You receive an Urgency 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) Either the call was incorrectly formatted by the other vessel or the other vessel has presumably lost MF/HF voice capability.
b) The DSC controller decoded the contents of the DSC call but the request is illegal.
c) Both a) and d) are true
d) 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.

098D- You receive a Routine DSC call specifying an alternate working voice frequency & emission. Your transceiver frequency display reads: 4125.0 kHz transmit 4125.0 kHz receive:

a) The requested alternate working channel was 4125.0 kHz Simplex and your DSC controller has automatically set-up your transceiver.
b) The DSC controller decoded the contents of the DSC call and has automatically set-up your transceiver but the request is illegal.
c) Both a) and b) are true
d) The DSC call came in on 4125 kHz and you should respond on the alternate working frequency.

098E- You receive a Routine DSC call to your vessel, without specifying an alternate working voice frequency & emission. Your transceiver frequency display reads: 2177 kHz transmit 2177 kHz receive. What must you do?

a) Tune the transmitter and make a voice call to the other vessel on 2187.5 kHz.
b) Access the data directory to determine the alternate frequency and then make a voice call to the other vessel on the alternate frequency.
c) Manually Acknowledge the DSC call on the alternate frequency, then make a voice call to the other vessel on 2182.0 kHz.
d) Call other vessel on 2182.0 kHz and shift to a proper working frequency.

098F- An incoming DSC Distress alert on 8414.5 kHz will have what result?

a) The DSC controller will emit both an audible and visual alarm.
b) The particulars of the alert may be printed out.
c) The Distress information contained in the alert will be sent to the data directory.
d) All of the above

Key Topic #098 Answer Key: A: c) B: d) C: c) D: c) E: d) F: d).

KEY TOPIC #099: BATTERIES:

099A- What is the normal voltage of a single lead acid battery cell?

a) 2.1 volts
b) 1.5 volts
c) 2.5 volts
d) 1.2 volts

099B- What is the normal specific gravity of a fully charged lead acid battery cell?

a) 1.375
b) 1.180
c) 1.280
d) 1.210

099C- What instrument is used for measuring the electrolyte of a lead acid battery?

a) Hygrometer
b) Hydrometer
c) ph Meter
d) Manometer

099D- What will cause an individual battery cell to reverse polarity.

a) High discharge rates without allowing for a cool down period.
b) Insufficient charging which does not bring all of the cells up to full charge.
c) When discharging the battery string if a cell becomes weaker than the remaining cells, the discharge current will effectively charge the weaker cell in reverse polarity.
d) None of the above

099E- What is the effect of temperature on the specific gravity of lead acid batteries?

a) Higher temperature results in a higher specific gravity reading.
b) Temperature has no effect on the specific gravity reading.
c) Lower temperature results in a lower specific gravity reading.
d) Higher temperature results in a lower specific gravity reading.

099F- What would be an indication of a malfunction on a GMDSS station with a 24 VDC battery system?

a) A constant 30 volt reading on the GMDSS console voltmeter.
b) After testing the station on battery power, the ammeter reading indicates a high rate of charge that then declines.
c) After testing the station on battery power, a voltmeter reading of 30 volts for brief period followed by a steady 26 volt reading.
d) None of the above

Key Topic #099 Answer Key: A: a) B: c) C: b) D: c) E: d) F: a).

KEY TOPIC #100: MF-HF: EQUIPMENT FAULTS & TESTING:

100A- Which of the following conditions would be a symptom of malfunction in a 2182 kHz radiotelephone system which must be reported to an onboard or at-sea maintainer under GMDSS?

a) Much higher noise level observed during daytime operation.
b) No indication of power output when speaking into the microphone.
c) When testing a radiotelephone alarm on 2182 kHz into an artificial antenna, the Distress frequency watch receiver becomes unmuted, an improper testing procedure.
d) Failure to contact a shore station 600 nautical miles distant during daytime operation.

100B- Which would indicate a malfunction in a 2182 kHz radiotelephone system?

a) No discernable traffic has been heard on the 2182 kHz during the radiotelephone silent periods.
b) Failure to contact another station 60 miles distant during daytime operation.
c) Dramatic decrease in noise level observed during night and early morning hours.
d) The visual indication of power to the antenna fluctuates while testing the radiotelephone alarm signal generator into an artificial antenna.

100C- Which would indicate proper operation of a SSB transmitter rated at 60 Watt PEP output in J3E mode?

a) In SITOR communications, the power meter can be seen fluctuating regularly from zero to the 60 watt relative output reading.
b) In SSB (J3E) voice mode, with the transmitter keyed but without speaking into the microphone, no power output is indicated.
c) In SSB (J3E) mode, speaking into the microphone causes the power meter to fluctuate well above the 60 watt reading.
d) A steady indication of transmitted energy on an RF power meter with no fluctuations when speaking into the microphone.

100D- Which would be an indication of proper operation of a SSB transmitter rated at 60 watt PEP output?

a) In SITOR communications, the power meter can be seen fluctuating regularly from zero to the 60 watt relative output reading.
b) In SSB (J3E) voice mode, with the transmitter keyed but without speaking into the microphone, power output is indicated.
c) In SSB (J3E) mode, speaking into the microphone causes power meter to fluctuate slightly around the 60 watt reading.
d) A steady indication of transmitted energy on an RF Power meter with no fluctuations when speaking into the microphone.

100E- Your antenna tuner becomes totally inoperative. What would you do to obtain operation on 2 HF bands?

a) Without an operating antenna tuner, transmission is impossible.
b) It is impossible to obtain operation on 2 different HF bands, without an operating antenna tuner.
c) Bypass the antenna tuner and shorten the whip to 15 ft.
d) Bypass the antenna tuner. Use a straight whip or wire antenna approximately 30 ft long.

100F- Your MF-HF whip antenna breaks off and is carried away in a storm. What would you do to regain operation on MF-HF frequencies?

a) Rig a wire antenna 10-15 ft long from the antenna tuner to the highest vertical support.
b) Rig a horizontal, center-fed dipole antenna 40 ft long.
c) Rig a wire antenna approximately 35-75 ft long per the equipment instruction manual.
d) Rig a long wire antenna at least 200 ft long.

Key Topic #100 Answer Key: A: b) B: b) C: b) D: a) E: d) F: c).