

**Section-A: General Information and System Overview. Key Topic #1: Fundamental Concepts:**

1A1 What is the fundamental concept of the GMDSS?

- A. GMDSS utilizes automated systems and satellite technology to improve emergency communications for the world's shipping 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.

1A2 The primary purpose of the GMDSS is:

- A. Allow more effective control of SAR situations by vessels.
- B. Automate and improve emergency communications for the world's shipping industry.
- C. Provide additional shipboard systems for more effective company communications.
- D. Effective and inexpensive communications.

1A3 What is the basic concept of GMDSS?

- A. Shoreside authorities will rely on reports from nearby vessels to become aware of Distress alerts.
- B. Shoreside authorities and vessels can assist in a coordinated SAR operation only after the correct chain of DSC relays takes place.
- C. SAR authorities ashore can be alerted to a Distress situation & shipping in the vicinity can be requested to participate in SAR operations.
- D. SAR authorities ashore wait to have EPIRB Distress alerts confirmed by satellite follow-on communications.

1A4 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.

1A5 What is the responsibility of compulsory GMDSS vessels?

- A. Every vessel must be able to perform communications functions essential for its own safety and the safety of other vessels.
- B. Vessels must transmit a DSC distress relay upon receipt of a DSC distress alert.
- C. Only the vessels closest to a Distress incident must render assistance.
- D. Vessels must immediately acknowledge all DSC distress alerts.

1A6 GMDSS is required for which of the following?

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

Answers:      1A1 - A              1A2 - B              1A3 - C              1A4 - D              1A5 - A              1A6 - B

**Section-A: General Information and System Overview. Key Topic #2: Equipment Systems:**

2A1 Which GMDSS system utilizes terrestrial radio techniques?

- A. F-77
- B. Inmarsat-C
- C. GPS
- D. VHF-MF-HF-DSC

2A2 What equipment utilizes satellite communications?

- A. Inmarsat-C
- B. VHF-MF-HF
- C. NAVTEX
- D. SART

2A3 What equipment is used in or near the survival craft?

- A. NAVTEX
- B. EPIRB
- C. Fathometer
- D. COSPAS-SARSAT

2A4 What equipment is programmed to initiate transmission of Distress alerts and calls to individual stations?

- A. NAVTEX
- B. GPS
- C. DSC Controller
- D. DSC Scanning Watch Receiver

2A5 What system provides accurate vessel position information to the GMDSS equipment?

- A. COSPAS-SARSAT
- B. EPIRB
- C. GPS
- D. Inmarsat-B

2A6 Which of these can be used to receive MSI?

- A. SART
- B. EPIRB
- C. Inmarsat-B
- D. NAVTEX

Answers:      2A1 - D      2A2 - A      2A3 - B      2A4 - C      2A5 - C      2A6 - D

**Section-A: General Information and System Overview. Key Topic #3: Sea Areas:**

3A1 Which of the following regions lie 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 (NBDP) coverage.
- C. Sea Area A4
- D. There are no additional Sea Areas.

3A2 What sea area is defined as being within range of a shore-based MF station that provides for continuous DSC alerting?

- A. Coastal waters
- B. Sea area A3
- C. Sea area A1
- D. Sea area A2

3A3 If a vessel is engaged in local trade and at no point in its voyage travels outside the range of a VHF shore station with continuous DSC alerting then the vessel is operating in what area?

- A. Sea area A1
- B. Coastal and international zones
- C. Inland and coastal waters
- D. Sea areas A1 and A2

3A4 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 A3
- C. Sea Area A4
- D. Coastal and Inland Waters

3A5 SITOR (NBDP) equipment is a partial or alternate carriage requirement under GMDSS for vessels operating in which sea area(s)?

- A. A1
- B. A3 and A4
- C. A1 and A2
- D. A1, A2, A3 and A4

3A6 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. Ocean Area Regions AOR-E, AOR-W, POR or IOR
- B. Sea Area A2
- C. Sea Area A1
- D. Coastal and Inland Waters

Answers:      3A1 - C              3A2 - D              3A3 - A              3A4 - B              3A5 - B              3A6 - C

**Section-A: General Information and System Overview. Key Topic #4: Functional Requirements:**

4A1 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 in all sea areas as well as a GMDSS Maintainer in sea areas A3 & A4.
- B. A compulsory vessel must satisfy certain equipment carriage requirements based on the intended sea area of operation.
- C. A compulsory vessel must be able to transmit and respond to Distress alerts and carry only one (1) FCC licensed GMDSS Radio Operator in sea areas A1 & A2.
- D. None of these answers are correct.

4A2 Which GMDSS communication functions must all compulsory vessels be capable of performing to meet International Maritime Organization requirements?

- A. Distress alerting and receipt of Maritime Safety Information via Inmarsat for all vessels intending to operate in Sea Area A4.
- B. Distress alerting and receipt of MSI in Sea Areas A1, A2, A3, and A4 regardless of the vessel's intended area of operation.
- C. Distress alerting, general communications and receipt of Maritime Safety Information in the vessel's intended area of operation.
- D. General communications via Inmarsat and receipt of Maritime Safety Information via Enhanced Group Calling in Sea Area A4.

4A3 GMDSS-equipped ships will be required to perform which of the following communications functions?

- A. Distress alerting, MSI, SAR and on-scene communications & receipt of satellite alerts from other vessels.
- B. SAR and on-scene communications, Bridge-to-Bridge and general radio communications, MSI and relay of satellite alerts from other vessels.
- C. Bridge-to-Bridge and general radio communications, RDF of EPIRB homing signals, Distress alerting and MSI.
- D. Transmit distress alerts, SAR and on-scene communications, MSI, Bridge-to-Bridge and general radio communications.

4A4 What equipment can be used to receive Maritime Safety Information?

- A. NAVTEX, EGC receiver or HF SITOR (NBDP).
- B. EGC receiver, Inmarsat B or F77 terminal.
- C. HF SITOR (NBDP), Inmarsat B or NAVTEX.
- D. All of these answers are correct.

4A5 Which of the following are required GMDSS functions?

- A. Bridge-to-Bridge communications, reception of weather map facsimile broadcasts, SAR communications.
- B. Reception of weather map facsimile broadcasts, receiving company email, On-scene communications.
- C. Reception of VHF weather channels, On-scene communications, general communications.
- D. Bridge-to-Bridge communications, general communications, SAR communications.

4A6 Which of the following are required GMDSS functions for vessels?

- A. Transmit and receive locating signals, general communications and SAR communications.
- B. Transmit and receive general communications, transmit Distress Alerts by at least one means, MSI.
- C. Transmit and receive locating signals, send MSI to other ships via EGC, Bridge-to-Bridge communications.
- D. Transmit and receive SAR communications, transmit Distress Alerts by at least one means, Bridge-to-Bridge communications.

Answers:      4A1 - B      4A2 - C      4A3 - D      4A4 - A      4A5 - D      4A6 - A

**Section-A: General Information and System Overview. Key Topic #5: Carriage Requirements:**

5A1 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.

5A2 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.

5A3 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. A4
- C. A3
- D. A1

5A4 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. Different subsystems are required to meet the specific equipment carriage requirements of national authorities.
- C. GMDSS vessels must be equipped to communicate in all modes with coast radio stations.
- D. The combined capabilities of redundant subsystems mitigate the risk of a single point of failure.

5A5 If operating within Ocean Area A1, and outside of NAVTEX coverage, a GMDSS-equipped vessel must carry:

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

5A6 What is the equipment carriage requirement for survival craft under GMDSS?

- A. At least three SCT units and two SARTs on every cargo ship between 300-500 gross tons and the same on all passenger ships regardless of tonnage.
- B. At least three SCT units and two SARTs on every passenger ship and cargo ships of 500 gross tons and upwards.
- C. At least two radar transponders must be carried on every cargo ship of 300-500 gross tons and two radar transponders (one for each side) of every passenger ship regardless of tonnage.
- D. All cargo vessels above 300 gross tons and every passenger ship regardless of tonnage must carry three SCT units and two SARTs.

Answers:      5A1 - A              5A2 - B              5A3 - C              5A4 - D              5A5 - A              5A6 - B

**Section-A: General Information and System Overview. Key Topic #6: Maintenance Options:**

6A1 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. Equipment warranties do not satisfy GMDSS maintenance requirements.
- D. 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.

6A2 Which of the following statements concerning GMDSS 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.

6A3 Which of the following is a GMDSS requirement 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 watch at all times.
- B. Only one of the three maintenance options is required.
- C. MF communications must be handled by the holder of a General Radiotelephone Operator's License.
- D. Only FCC required spare parts and a maintenance kit for repairs are required.

6A4 What statement is correct regarding the maintenance requirements for A3 ships under GMDSS?

- A. If the vessel selects at-sea maintenance no additional parts and spares are required.
- B. On-board maintenance provided by a person holding a GMDSS Maintainer's license will fully meet the requirements.
- C. Redundancy of functions of certain equipment and on-board maintenance provided by a person holding a GMDSS Maintainer's license will partially meet this requirement.
- D. Shoreside maintenance and scheduled tests and inspections will not partially meet this requirement.

6A5 A ship operating in sea area A-3 must have the following provisions for maintenance:

- A. Duplication of Equipment.
- B. Shore Maintenance.
- C. Any two of these are required.
- D. At Sea Maintenance.

6A6 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 these is sufficient.

Answers:      6A1 - D      6A2 - A      6A3 - B      6A4 - C      6A5 - C      6A6 - D

**Section-B: Principles of Communications: Key Topic #7: Radio Spectrum:**

7B1 What is the frequency range for Medium Frequency?

- A. 10-30 MHz
- B. 1,000-10,000 kHz
- C. 300-3,000 kHz
- D. 30-300 kHz

7B2 What is the frequency range for High Frequency?

- A. 300-3,000 kHz
- B. 30-300 MHz
- C. 10-30 MHz
- D. 3-30 MHz

7B3 What is the frequency range for Very High Frequency?

- A. 30-300 MHz
- B. 3-30 MHz
- C. 300-3,000 kHz
- D. 10-30 MHz

7B4 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

7B5 What is the frequency range for Super High Frequency?

- A. 30-300 GHz
- B. 3-30 GHz
- C. 300-3,000 MHz
- D. 30-300 MHz

7B6 What is the primary frequency range for terrestrial communications using skywave propagation?

- A. 300-3,000 kHz
- B. 30-300 MHz
- C. 3-30 MHz
- D. 10-30 MHz

Answers:      7B1 - C      7B2 - D      7B3 - A      7B4 - B      7B5 - B      7B6 - C

**Section-B: Principles of Communications: Key Topic #8: Frequency Bands:**

8B1 Which of the following systems is most susceptible to fading or static interference?

- A. Inmarsat
- B. HF SITOR (NBDP)
- C. DSC on channel 70
- D. VHF ARQ

8B2 Which system is most likely to be affected by atmospheric disturbances?

- A. VHF DSC
- B. Inmarsat
- C. MF/HF radiotelephony
- D. SafetyNET™

8B3 Which of the following systems is least susceptible to fading or static interference?

- A. HF SITOR (NBDP)
- B. MF-HF DSC Controller
- C. VHF ARQ
- D. Inmarsat

8B4 Which of the following systems is least susceptible to atmospheric disturbances?

- A. Inmarsat
- B. NAVTEX
- C. MF SITOR (NBDP)
- D. HF SITOR (NBDP)

8B5 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 High Frequency (HF) band.
- C. The Very High Frequency (VHF) band.
- D. The Medium Frequency (MF) band.

8B6 Which system has the least effective radius of operation?

- A. VHF DSC
- B. HF SITOR (NBDP)
- C. MF SITOR (NBDP)
- D. NAVTEX

Answers:      8B1 - B      8B2 - C      8B3 - D      8B4 - A      8B5 - D      8B6 - A



**Section-B: Principles of Communications: Key Topic #9: Modulation, Demodulation, AM, FM:**

9B1 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.

9B2 What statement best describes demodulation?

- A. Detuning the receiver to remove interfering signals.
- B. Extracting intelligence from the radio carrier signal.
- C. Removing atmospheric noise from the signal.
- D. Separating the TELEX signals from the voice signals.

9B3 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 amplitudes in the sideband(s) changes but the radio carrier frequency remains constant.
- D. The amplitude of the carrier is changed but there is still only a single frequency being transmitted.

9B4 What is the emission designation for MF-HF voice signals?

- A. F1B
- B. J2B
- C. F3E
- D. J3E

9B5 Which statement best describes frequency modulation?

- A. The information signal changes the radio carrier frequency but the amplitude remains constant.
- B. Both the amplitude and frequency are changed by the modulating signal.
- C. Frequency modulation is subject to interference by atmospheric noise.
- D. High level mixing of the final amplifier signal and the information signal.

9B6 What is the emission designation for VHF-FM?

- A. F3C
- B. F3E
- C. J2B
- D. H3E

Answers:      9B1 - A              9B2 - B              9B3 - C              9B4 - D              9B5 - A              9B6 - B

**Section-B: Principles of Communications: Key Topic #10: Carrier and Sidebands:**

10B1 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 used to modulate the information signal.
- C. There are always sidebands on either side of the carrier.
- D. The carrier is a Radio Frequency (RF) signal that is modulated to carry intelligence.

10B2 On what frequencies would the J3E emission be used for GMDSS Distress communications?

- A. 2182.0 kHz, 16420.0 kHz or 8291.0 kHz.
- B. 2182.0, 2187.5 KHz or 8414.5 kHz.
- C. 8414.5 KHz, 8291.0 kHz or 8376.5 kHz.
- D. 4125.0 kHz, 16420.0 kHz or 4177.5 kHz.

10B3 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.

10B4 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.

10B5 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.

10B6 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. There are a carrier and two sidebands in H3E mode.
- D. There are two tones used in J2B mode.

Answers:      10B1 – D      10B2 - A      10B3 - B      10B4 – C      10B5 – C      10B6 - D

**Section-B: Principles of Communications: Key Topic #11: Channel Spacing:**

11B1 What is the channel spacing for MF-HF voice frequencies?

- A. 500 Hz
- B. 2.8 kHz
- C. 3.0 kHz
- D. 3.5 kHz

11B2 What is the channel spacing for authorized F1B/J2B frequencies?

- A. 170 Hz
- B. 300 Hz
- C. 3.0 kHz
- D. 500 Hz

11B3 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. F1B/J2B SITOR (NBDP)
- B. J3E SSB Voice
- C. F3E FM Voice
- D. G3E FM Voice

11B4 How many SITOR (NBDP) signals can occupy the space of one voice signal?

- A. 10
- B. 6
- C. 4
- D. 2

11B5 Which emission mode occupies the most bandwidth?

- A. J2B
- B. F3E
- C. J3E
- D. F1B

11B6 Which mode occupies the least bandwidth?

- A. H3E
- B. A3E
- C. J2B
- D. F3E

Answers:      11B1 - C      11B2 - D      11B3 - A      11B4 - B      11B5 - B      11B6 - C

**Section-B: Principles of Communications: Key Topic #12: Antennas:**

12B1 A vertical (whip) antenna has a radiation pattern best described by?

- A. A figure eight
- B. A circle
- C. A cardioid
- D. An ellipse

12B2 Why is an antenna tuner required for MF-HF transmissions?

- A. The antenna tuner calculates the proper spectrum band for the operator to use.
- B. To ensure transmissions are restricted to legal marine frequencies.
- C. The length of the physically-fixed antenna must be electrically matched to the intended frequency of operation.
- D. The antenna tuner indicates whether the ionosphere is ready to reflect a transmission properly.

12B3 A vertical quarter wave antenna with a good ground connection will:

- A. Radiate directionally due to being grounded.
- B. Not function due to being grounded.
- C. Only be used in Satellite communications.
- D. Radiate omni-directionally.

12B4 What is the most common type of antenna for GMDSS MF-HF?

- A. Vertically polarized whip antenna
- B. Horizontally polarized long wire antenna.
- C. Horizontally polarized vertical whip antenna.
- D. Satellite radome with vertical polarization.

12B5 What is the purpose or function of the antenna coupler?

- A. Electrically matching the antenna system to the transmit frequency.
- B. Changing the overall wavelength of the antenna system (in addition to the fixed length whip.)
- C. Enabling maximum transmitted signal on the band chosen by the operator.
- D. All of these answers are functions of the antenna coupler.

12B6 What advantage does a vertical whip have over a long wire?

- A. It radiates equally well in all directions.
- B. It radiates directionally for better propagation.
- C. It radiates a strong signal vertically.
- D. It radiates more signal fore and aft.

Answers:      12B1 - B      12B2 - C      12B3 - D      12B4 - A      12B5 - D      12B6 - A

**Section-C: F.C.C. Rules & Regulations: Key Topic #13: Inspections and Exemptions:**

13C1 How often must a compulsory vessel's GMDSS radio station be inspected?

- A. Annually, by the FCC or designated authority.
- B. Annually, by the U.S. Coast Guard.
- 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.

13C2 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.

13C3 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. The regulations apply to all passenger ships regardless of size and cargo ships of 300 gross tons and upwards.
- C. Ships must have the required equipment inspected at least once every five years.
- D. Ships must carry at least two persons holding a GMDSS Radio Operator's license for Distress and Safety radio-communications purposes.

13C4 Which statement is false regarding a GMDSS equipped ship?

- A. Ships must have the required equipment inspected at least once every 12 months.
- B. The regulations apply to all passenger ships regardless of size and cargo ships of 300 gross tons and upwards.
- C. Ships must carry at least two persons holding a GMDSS Radio Operator's license for Distress and Safety radio-communications purposes.
- D. 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.

13C5 During an annual GMDSS station inspection:

- A. All required documents and publications might have to be produced and GMDSS operators may be required to demonstrate equipment competencies.
- B. Licensed GMDSS operators may not be required to demonstrate equipment competencies but all required equipment must be fully operational.
- C. All required equipment must be fully operational and any required publications that are not current must be on order.
- D. GMDSS operators may be required to demonstrate equipment competencies and any of required equipment that is not fully operational can be repaired at the next port of call as long as there is functional duplication.

13C6 Which situation is least likely to result in an inspection of the radio installation by foreign governments or administrations?

- A. When the ship's station license cannot be produced without delay.
- B. When a ship visits a port for the first time.
- C. When operational irregularities are observed.
- D. When compulsory equipment is found to be inoperative.

Answers:      13C1 - A      13C2 - B      13C3 - C      13C4 - D      13C5 - A      13C6 - B

**Section-C: F.C.C. Rules & Regulations: Key Topic #14: Required Documents and Publications:**

14C1 Which of the following references should be consulted for information on the proper setup and use of GMDSS equipment?

- A. ITU List of Equipment Operations.
- B. 47 CFR Part 80 Subpart W.
- C. Instructions are available through the Maritime Safety Information (MSI) system.
- D. The manufacturer's operating manuals.

14C2 Where can GMDSS regulations pertaining specifically to U.S.-flag vessels be found?

- A. These are located in 47 CFR Part 80.
- B. These are located in CCIR #476.
- C. These are located in FCC Part 83.
- D. These are published only by the U.S. Coast Guard.

14C3 What publications should the GMDSS Radio Operator consult to review the proper procedures to be followed in Distress situations under GMDSS?

- A. The manufacturer's technical manuals.
- B. 47 CFR Part 80 Subpart W.
- C. The manufacturer's operator manuals.
- D. 47 CFR Part 90 Subpart V.

14C4 Which of the following documents or publications are required by the FCC for GMDSS vessels on international voyages (other than the Great Lakes)?

- A. IMO master plan of shore-based facilities (or substitute), station logs, appropriate operator licenses, Inmarsat handbook for GMDSS.
- B. NGA Pub. 117 (or substitute), station logs, appropriate operator licenses, IAMSAR manual volume III.
- C. Part 80 FCC rules, station logs, station licenses, ITU publications, ITU manual for Maritime Mobile stations.
- D. Part 80 FCC rules, station logs, station licenses, ITU publications, IMO manual for Maritime Mobile stations.

14C5 Which of the following documents or publications are required by Part 80 of the FCC rules for vessels on international voyages (other than the Great Lakes)?

- A. Appropriate Safety Convention Certificate, ITU Master Plan of GMDSS Coast stations, and ITU manual for Maritime Mobile stations.
- B. ITU Master Plan of GMDSS Coast stations, ITU manual for Maritime Mobile stations, ITU List IV & List V.
- C. ITU List IV & List V, Appropriate Safety Convention Certificate & ITU manual for Maritime Mobile stations.
- D. ITU List IV & List V, Appropriate Safety Convention Certificate & IMO manual for Maritime Mobile stations.

14C6 Which of the following references should be consulted to identify the name of a vessel based on its Maritime Mobile Service Identity?

- A. ITU list of Coast Stations.
- B. ITU List of Radio-determination and Ship Stations.
- C. ITU Master Plan of Shore-Based Facilities.
- D. ITU List of Ship Stations and Maritime Mobile Service Identity Assignments.

Answers:      14C1 - D      14C2 - A      14C3 - B      14C4 - C      14C5 - C      14C6 - D

**Section-C: F.C.C. Rules & Regulations: Key Topic #15: Maintenance:**

15C1 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. Aligning the power output stage for maximum power.
- D. Perform scheduled testing of the battery's charged condition.

15C2 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 is carrying only two licensed GMDSS Radio Operators and is capable of performing all required functions.
- D. When the vessel has replaced a required piece of GMDSS-related equipment but its performance has not been verified or logged.

15C3 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.

15C4 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. Any adjustments or maintenance that may affect the proper operation of the station.
- C. Routine battery maintenance if used as part of the GMDSS station.
- D. Replacement of consumable items such as paper, ribbons, etc.

15C5 What are the conditions, under GMDSS, whereby a ship is NOT allowed to depart from any port?

- A. The vessel is carrying more than the required number of qualified GMDSS radio operators.
- B. The vessel is not capable of performing all required Distress and Safety functions.
- 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.

15C6 What determines the spares and maintenance materials requirements for the SITOR (NBDP) equipment under GMDSS?

- A. 47 CFR Part 80
- B. IMO Circular "Equipment Spares".
- C. The recommendations of the manufacturer.
- D. The GMDSS Maintainer's requirements.

Answers:      15C1 - C      15C2 - D      15C3 - A      15C4 - B      15C5 - B      15C6 - C

**Section-C: F.C.C. Rules & Regulations: Key Topic #16: License and Personnel Requirements:**

16C1 Which FCC license meets the requirement to serve as a GMDSS operator?

- A. General Radiotelephone Operator's License.
- B. GMDSS Radio Operator's License.
- C. Marine Radio Operator's Permit.
- D. GMDSS Radio Maintainer's License.

16C2 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. All communications involving Safety of life at sea must 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.

16C3 Which FCC license meets the requirements to perform or supervise the performance of at-sea adjustments, servicing, or maintenance which may affect the proper operation of the GMDSS station?

- A. General Radiotelephone Operator's License with Shipboard RADAR endorsement.
- B. Marine Radio Operator's Permit or GMDSS Maintainer's license.
- C. GMDSS Radio Operator's license or Marine Radio Operator's Permit.
- D. GMDSS Operator's/Maintainer's license or GMDSS Maintainer's license.

16C4 Which statement is false regarding the radio operator requirements for a GMDSS-equipped ship station?

- A. 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.
- B. One of the qualified GMDSS radio operators must be designated to have primary responsibility for radio-communications during Distress incidents.
- C. A qualified GMDSS radio operator, and a qualified backup, must be designated to perform Distress, Urgency and Safety communications.
- 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.

16C5 Which of the following are personnel, functional, or equipment FCC requirements of the GMDSS?

- A. One FCC licensed GMDSS radio operator in sea areas A1 & A2, two FCC licensed GMDSS radio operators in sea areas A3 & A4 and equipment carriage based on intended sea area of operations.
- B. Distress alerting and response, two USCG STCW GMDSS watchstanders, equipment carriage based on intended sea area of operations.
- C. Equipment carriage reduced for sea areas A3 & A4, Distress alerting and response and two FCC licensed GMDSS radio operators.
- D. Equipment carriage based on intended sea area of operations, distress alerting and response and two FCC licensed GMDSS radio operators.

16C6 How many GMDSS radio maintainers must be carried aboard a compulsory vessel if the At-Sea maintenance method is used?

- A. One regardless of sea area of operation.
- B. Two in Sea Areas A3 and A4.
- C. Two in Sea Area A1.
- D. None of these answers are correct.

Answers:      16C1 - B      16C2 - C      16C3 - D      16C4 - A      16C5 - D      16C6 - A



**Section-C: F.C.C. Rules & Regulations: Key Topic #17: Reserve Source of Energy:**

17C1 Which statement is false regarding the GMDSS requirement for ship sources of energy?

- A. The reserve sources of energy need to supply independent MF and HF radio installations at the same time.
- B. 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.
- 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 a vessel's position is constantly required for the proper performance of a GMDSS station, provisions must be made to ensure position information is uninterrupted if the ship's source of main or emergency energy fails.

17C2 What is the meaning of "Reserve Source of Energy"?

- A. High caloric value items for lifeboat, per SOLAS regulations.
- B. Power to operate the radio installation and conduct Distress and Safety communications in the event of failure of the ship's main and emergency sources of electrical power.
- C. Diesel fuel stored for the purpose of operating the powered survival craft for a period equal to or exceeding the U.S.C.G. and SOLAS requirements.
- D. The diesel fueled emergency generator that supplies AC to the vessel's Emergency power bus.

17C3 Which term describes the source of energy required to supply the GMDSS console with power if the ship's source of main or emergency energy fails?

- A. Emergency power
- B. Ship's emergency diesel generator
- C. Reserve Source of Energy
- D. Ship's standby generator

17C4 What characteristics describe the GMDSS Reserve Source of Energy (RSE)?

- 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.

17C5 What is the requirement for emergency and reserve power in GMDSS radio installations?

- A. Compulsory ships must have emergency and reserve power sources for radio communications.
- B. An emergency power source for radio communications is not required if a vessel has proper reserve power (batteries).
- C. A reserve power source is not required for radio communications.
- D. 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.

17C6 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. Emergency Diesel Generator (EDG)
- B. Reserve Source of Energy (RSE)
- C. Reserve Source of Diesel Power (RSDP)
- D. Emergency Back-up Generator (EBG)

Answers:      17C1 - A      17C2 - B      17C3 - C      17C4 - D      17C5 - A      17C6 - B

**Section-C: F.C.C. Rules & Regulations: Key Topic #18: Equipment Testing:**

18C1 Under GMDSS, a compulsory VHF-DSC radiotelephone installation must be tested at what minimum intervals at sea?

- A. Annually, by a representative of the FCC.
- B. At the annual SOLAS inspection.
- C. Monthly
- D. Daily

18C2 Which statement concerning the testing of a compulsory radiotelephone station is false?

- A. Calling the USCG on VHF CH-16 or 2182.0 kHz is the most effective method.
- B. Tests may be accomplished by using the equipment for normal business.
- C. A daily test is necessary unless the equipment was used for routine traffic.
- D. The test may not interfere with communications in progress and must wait or be suspended if a request to do so is made.

18C3 While underway, how frequently is the DSC controller required to be tested?

- A. Once a week
- B. Once a day
- C. Twice a week
- D. Once a month

18C4 At sea, all required equipment (other than Survival Craft Equipment) must be proven operational by:

- A. Testing at least every 48 hours.
- B. Weekly testing of all S.C.E. and other compulsory equipment.
- C. Daily testing or daily successful use of the equipment.
- D. Daily testing of the S.C.E. and weekly tests of the other equipment.

18C5 The best way to test the MF-HF SITOR (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 ARQ call to a Coast Station and wait for the automatic exchange of answerbacks.
- D. Initiate an FEC call to demonstrate that the transmitter and antenna are working.

18C6 The best way to test the Inmarsat-C terminal is:

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

Answers:      18C1 - D      18C2 - A      18C3 - B      18C4 - C      18C5 - C      18C6 - D

**Section-C: F.C.C. Rules & Regulations: Key Topic #19: Watchkeeping:**

19C1 A vessel certified for service in Sea Area A3 is required to maintain a watch on:

- A. VHF Channel 70, MF Frequency 2182.0 kHz, HF on 8414.5 kHz and one other HF DSC frequency.
- B. MF Frequency 2187.5 kHz, HF on 8414.5 kHz and one other HF DSC frequency, HF on 4125.0 kHz.
- C. VHF Channel 70, MF Frequency 2187.5 kHz, HF on 8414.5 kHz and one other HF DSC frequency.
- D. VHF Channel 16, VHF Channel 70, MF Frequency 2187.5 kHz, HF on 8414.5 MHz and HF 4177.5 MHz.

19C2 A vessel certified for service in Sea Area A-2 is required to maintain watch on:

- A. 2174.5 kHz
- B. 2182.0 kHz
- C. 2738.0 kHz
- D. 2187.5 kHz

19C3 What are the mandatory DSC watchkeeping bands/channels?

- A. 8 MHz HF DSC, 1 other HF DSC, 2 MHz MF DSC and VHF Ch-70.
- B. 2 MHz MF DSC, 8 MHz DSC, VHF Ch-16 and 1 other HF DSC.
- C. VHF Ch-70, 2 MHz MF DSC, 6 MHz DSC and 1 other HF DSC.
- D. VHF Ch-70, 2 MHz MF DSC, 4 MHz DSC and 8 MHz DSC.

19C4 Proper watchkeeping includes the following:

- A. Monitoring all required frequencies in the proper mode, setting the DSC scanner to 2 MHz, 4 MHz and 8 MHz for ships in the vicinity, notifying the Master of any Distress alerts.
- B. After silencing an alarm all displays and/or printouts are read, monitoring all required frequencies in the proper mode, notifying the Master of any Distress alerts.
- C. Notifying the Master of any Distress alerts, setting the DSC scanner to 2 MHz, 4 MHz and 8 MHz for ships in the vicinity, monitoring all required frequencies in the proper mode.
- D. Setting the DSC scanner only to the mandatory 2 MHz & 8 MHz, maintain continuous watch on 2182.0 kHz or 4125.0 kHz, notify the Master of any Distress traffic heard.

19C5 Proper watchkeeping includes the following:

- A. Understanding normal operational indicators, setting the DSC scanner frequencies to minimize alarms, maintaining a proper log.
- B. Maintaining a proper GMDSS radio station log, understanding normal operational indicators, responding to and comprehending alarms.
- C. Responding to and comprehending alarms, logging out of Inmarsat-C terminals while at sea, maintaining a proper GMDSS radio station log.
- D. Maintaining a proper GMDSS radio station log, setting the DSC scanner frequencies to minimize alarms, logging out of Inmarsat-C terminals while at sea.

19C6 Which is true concerning a required watch on VHF Ch-16?

- A. 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 required on Ch-16 in addition to both Ch-13 and the VTS channel.
- B. It is not compulsory at all times while at sea until further notice, unless the vessel is in a VTS system.
- C. 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 the VTS channel.
- D. It is not always compulsory in sea areas A2, A3 and A4.

Answers:      19C1 - C      19C2 - D      19C3 - A      19C4 - B      19C5 - B      19C6 - C

**Section-C: F.C.C. Rules & Regulations: Key Topic #20: Logkeeping:**

20C1 Which of the following statements meets requirements for 47 CFR 80 Subpart-W?

- A. GMDSS Radio Logs may not be retained aboard compulsory vessels in an electronic file (e.g., word processing) format.
- B. GMDSS Radio Logs must contain entries of all Distress and Urgency communications affecting your own ship.
- C. GMDSS Radio Logs must be retained aboard compulsory vessels for a period of at least 90 days in their original form.
- D. Entries in the GMDSS Radio Log are only required for communications within the vessel's intended Sea Area of operation.

20C2 Which of the following statements is false?

- A. Key letters or abbreviations may be used in GMDSS Radio Logbooks if their meaning is explained.
- B. Urgency communications may need to be entered in the GMDSS radio log.
- C. Distress communications heard do not require entries if the vessel did not participate in SAR activity.
- D. Log entries of VHF Safety broadcasts are not required.

20C3 Where should the GMDSS radio log be kept on board ship?

- A. Captain's office
- B. Sea cabin
- C. Anywhere on board the vessel.
- D. At the GMDSS operating position.

20C4 How long must the radio log be retained on board before sending it to the shoreside licensee?

- A. At least 30 days after the last entry.
- B. At least one year after the last entry.
- C. At least two years after the last entry.
- D. At least 90 days after the last entry.

20C5 Which statement concerning radio log archival by the station licensee is false?

- A. Retain for two years if there are no Distress entries.
- B. Logs related to an investigation may not be destroyed without specific authorization.
- C. Retain for three years if there are Distress entries.
- D. Retain for one year unless there are Distress or Urgency entries.

20C6 Which of the following logkeeping statements is false?

- A. Entries of all company communications using GMDSS satellite equipment are required.
- B. Entries relating to pre-voyage, pre-departure and daily tests are required.
- 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. Entries related to failures of compulsory equipment are required.

Answers:      20C1 - B      20C2 - C      20C3 - D      20C4 - A      20C5 - D      20C6 - A

**Section-D: DSC & Alpha-Numeric ID: Key Topic #21: Call Signs and SELCALs**

21D1 A typical call sign for a large container ship under U. S. flag would be:

- A. KBZY
- B. WBX1469
- C. NADN
- D. KPH

21D2 What would the number 1090 indicate?

- A. A ship DSC MMSI number.
- B. A coast station SITOR (NBDP) SELCAL number.
- C. A coast station DSC MMSI number.
- D. A ship station SITOR (NBDP) SELCAL number.

21D3 Which one of the following is a ship station SELCAL?

- A. 1104
- B. 1502352
- C. 11243
- D. 0230364973

21D4 Which of the following is the call sign for a U.S.C.G. coast station?

- A. NERK
- B. KPH
- C. WCC
- D. NMN

21D5 What type of station would be assigned the call sign WAB2174?

- A. Tug boat
- B. Container ship
- C. Passenger ship
- D. Bulk Tanker

21D6 What number will a ship station use to identify itself using SITOR (NBDP)?

- A. Four digit SELCAL.
- B. Five digit SELCAL or 9 digit SELCAL number identical to MMSI.
- C. 9 digit Inmarsat-B I. D. number.
- D. 9 digit Inmarsat-C I.D. number.

**Section-D: DSC & Alpha-Numeric ID: Key Topic #22: MMSI- MID and Ship Station I.D. Numbers:**

22D1 What is the MID?

- A. Mobile Identification Number
- B. Marine Indemnity Directory
- C. Mobile Interference Digits
- D. Maritime Identification Digits

22D2 How many digits are in the MID (Maritime Identification Digits)?

- A. 3
- B. 7
- C. 9
- D. 10

22D3 What does the MID (Maritime Identification Digits) signify?

- A. Port of registry
- B. Nationality
- C. Gross tonnage
- D. Passenger vessel

22D4 Which of the following numbers indicates a U.S. flag ship station?

- A. 036627934
- B. 243537672
- C. 338426791
- D. 003382315

22D5 Which of the following MMSI numbers indicates a U.S. flag ship station?

- A. 430326890
- B. 033609991
- C. 303236824
- D. 257326819

22D6 Which of the following numbers indicates a ship station MMSI?

- A. 003372694
- B. 030356328
- C. 3384672
- D. 623944326

Answers:      22D1 - D      22D2 - A      22D3 - B      22D4 - C      22D5 - C      22D6 - D

**Section-D: DSC & Alpha-Numeric ID: Key Topic #23: MMSI; Group and Coast Station I.D. Numbers:**

23D1 A DSC call is received from a station with a MMSI number of 003669991. What type of station made the call?

- A. A vessel operating in Sea Area A3.
- B. A group ship station
- C. A U.S. coast station
- D. An Intercoastal vessel

23D2 A valid MMSI number for a DSC call to a specific group of vessels is:

- A. 003664523
- B. 338462941
- C. 003036483
- D. 030327931

23D3 A MMSI 030346239 indicates what?

- A. Group MMSI
- B. Inmarsat-C I.D. number
- C. Coast station
- D. Ship station

23D4 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.

23D5 Which of the following statements concerning MMSI is false?

- A. All Coast Station MMSI must begin with 2 zeros.
- B. All Coast Station MMSI must begin with the MID then 2 zeros.
- C. A group call must begin with a single zero followed by the MID.
- D. The first 3 digits of a ship MMSI comprise the MID.

23D6 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. None of these answers are correct.
- D. All Coast Station MMSI must be 9 digits and begin with the MID and then two zeros.

Answers:      23D1 - C      23D2 - D      23D3 - A      23D4 - B      23D5 - B      23D6 - C

**Section-D: DSC & Alpha-Numeric ID: Key Topic #24: Inmarsat Mobile Numbers for B & F-77 Terminals:**

24D1 Which of the following would indicate an Inmarsat-B terminal?

- A. A 9 digit number beginning with the MID.
- B. A 9 digit number always starting with 3.
- C. A 7 digit number.
- D. A 9 digit number always starting with 4.

24D2 Which of the following would indicate an Inmarsat-B terminal?

- A. 003662517
- B. 436682011
- C. 325468325
- D. 1500241

24D3 Which of the following would indicate an F77 terminal?

- A. 150036
- B. 430364290
- C. 1502460
- D. 766832922

24D4 Which of the following would indicate an F77 terminal?

- A. 765044177
- B. 003668202
- C. 436682433
- D. 1500270

24D5 Which of the following would indicate an Inmarsat-B terminal?

- A. 150036
- B. 430363275
- C. 1502460
- D. 366632824

24D6 Which of the following would indicate an F77 terminal?

- A. A 9 digit number always starting with 76.
- 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.

Answers:      24D1 - B      24D2 - C      24D3 - D      24D4 - A      24D5 - D      24D6 - A



**Section-D: DSC & Alpha-Numeric ID: Key Topic #25: Inmarsat Mobile Numbers for “C” Terminals:**

25D1 You receive a TELEX with the sender's 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

25D2 You receive a TELEX with the sender's I.D. of 436640927. What type of terminal sent this message to your vessel?

- A. F77 Fleet
- B. Inmarsat-C
- C. Land TELEX terminal
- D. Inmarsat-M

25D3 Which of the following would indicate an Inmarsat-C terminal?

- A. 003668202
- B. 325468263
- C. 436682433
- D. 1500270

25D4 Which of the following would indicate an Inmarsat-C terminal?

- A. 150036
- B. 366294824
- C. 1502690
- D. 430346275

25D5 Which of the following would indicate an Inmarsat-C terminal?

- A. 436682011
- B. 003662517
- C. 325468325
- D. 1500241

25D6 Which of the following would indicate an Inmarsat-C terminal?

- A. A 9 digit number beginning with the MID.
- B. A 9 digit number always starting with 4.
- C. A 7 digit number.
- D. A 9 digit number always starting with 3.

**Section-D: DSC & Alpha-Numeric ID: Key Topic #26: DSC Format and Info Sent:**

26D1 What sequence best describes an MF-HF DSC Distress menu transmission?

- A. Vessel name, Distress priority code, vessel position & time, nature of Distress,
- B. A string of dots to stop the DSC scanner, vessel MMSI, vessel position & time, nature of Distress, frequency for follow-on communications.
- C. Vessel MMSI, frequency & emission for follow-on communications, vessel position & time, Distress priority code.
- D. A string of dots to stop the DSC scanner, Distress priority code, vessel position & time, emission for follow-on communications, DSC frequency.

26D2 MF-HF DSC alerts are transmitted using what emission type?

- A. J2B to ensure compatibility with DSC receivers.
- B. J3E to ensure correct voice follow-on frequencies are used.
- C. F1B to ensure correct SITOR (NBDP) follow-on frequencies are used.
- D. A3E to achieve the best transmission range.

26D3 When sending a DSC call:

- A. Vessel's position will automatically be sent with DSC calls specifying an alternate frequency.
- 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 and vessel position.
- D. Vessel's MMSI and position will automatically be sent for all types of DSC calls.

26D4 DSC transmissions are encoded:

- A. Using J3E mode for proper follow-on communications.
- B. Using F1B mode to ensure proper reception.
- C. Using a ten-bit error detecting code.
- D. Using J2B mode for correct transmission.

26D5 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.

26D6 Properly formatted MF-HF 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/F3E voice emissions
- D. J3E/H3E voice emissions

Answers:      26D1 - D      26D2 - A      26D3 - B      26D4 - C      26D5 - C      26D6 - D

**Section-D: DSC & Alpha-Numeric ID: Key Topic #27: DSC Operations:**

27D1 Which of the following statements concerning DSC equipment is true?

- A. The GMDSS Radio Operator is not responsible for properly selecting HF DSC guard channels because they are done automatically by the watch receiver.
- B. All equipment must be type accepted by Inmarsat.
- C. The vessel's navigational position must be updated, either automatically or manually, no less often than every four (4) hours.
- D. The GMDSS Radio Operator is responsible for properly selecting VHF & MF DSC guard channels but the HF frequencies are done automatically by the watch receiver.

27D2 What is the action that a GMDSS Radio Operator should take when a DSC Distress alert is received requesting J3E?

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

27D3 What does the DSC control unit do if the GMDSS Radio Operator fails to insert updated information when initiating a DSC Distress alert?

- A. It will initiate the DSC Distress alert and default information will automatically be transmitted.
- B. It will abort the transmission and set off an audible alarm that must be manually reset.
- C. It will initiate the DSC Distress alert but, as no information will be transmitted, rescue personnel will not be able to identify the vessel, its position, or its situation.
- 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.

27D4 A DSC Distress alert:

- A. Must always be sent on VHF Ch-70.
- B. Will always be sent on one or more of the DSC Distress frequencies.
- C. Must always be sent on MF 2 MHz plus one other HF DSC frequency.
- D. Must always be sent on VHF Ch-70, then 2 MHz MF then 8 MHz HF.

27D5 In all cases, the transmit frequency of a MF/HF console DSC Distress alert:

- A. Will always go out first on 2187.5 kHz.
- B. Depends upon operator DSC Call set up entries or manufacturer's defaults.
- C. Will go out on 8 MHz and 2 MHz and one other DSC Distress frequency.
- D. Will always go out first on 8414.5 kHz to ensure receipt by a coast station.

27D6 DSC relays of Distress alerts by vessels:

- A. Should be done for all Distress alerts received aboard the ship.
- B. Should be transmitted to all ships involved in Distress traffic.
- C. Should be avoided; unless an acknowledgement has not been heard.
- D. Are the best means to provide for a retransmission of Distress communications.

Answers:      27D1 - C      27D2 - D      27D3 - A      27D4 - B      27D5 - B      27D6 - C

**Section-D: DSC & Alpha-Numeric ID: Key Topic #28: DSC Frequencies:**

28D1 Which of the following is not a DSC watch frequency?

- A. 2187.5 kHz
- B. 2182.0 kHz
- C. 6312.0 kHz
- D. 12577.0 kHz

28D2 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-70 DSC
- D. Ch-13 Radiotelephony and Ch-16 DSC

28D3 How many total frequencies are available for DSC Distress alerting?

- A. One
- B. Two
- C. Five
- D. Seven

28D4 Which of the following watches must a compulsory Sea Area A1 vessel maintain?

- A. A continuous DSC watch on Ch-70.
- B. A continuous DSC watch on 8414.5 kHz plus one other HF DSC frequency.
- C. A continuous DSC watch on 2187.5 kHz.
- D. A continuous DSC watch on Ch-16.

28D5 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. 2174.5, 4177.5, 6268.0, 8376.5, 12520.0, 16695.0
- D. 2187.5, 4207.5, 6312.0, 8414.5, 12577.0, 16804.5

28D6 How many HF DSC Distress watch channels must be guarded by a compulsory vessel underway.

- A. 2
- B. 3
- C. 4
- D. 6

Answers:      28D1 - B      28D2 - C      28D3 - D      28D4 - A      28D5 - D      28D6 - A

**Section-E: Distress, Urgency & Safety Communications: Key Topic #29: Sending a Distress Alert:**

29E1 What is usually the first step for a GMDSS Radio Operator to take when initiating a Distress priority message via Inmarsat?

- A. By pressing a "Distress Button" or "Distress Hot Key(s)" on the equipment.
- B. By dialing the correct code on the telephone remote unit.
- C. By contacting the LES operator and announcing a Distress condition is in existence.
- D. By contacting the LES operator using the radiotelephone Distress procedure "Mayday"... etc.

29E2 Which of the following statements is true regarding Distress alerting under GMDSS?

- A. Ship to shore Distress alerts are used to alert other ships in port of navigational hazards.
- B. 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.
- 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.

29E3 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.

29E4 Repetition of a DSC Distress call is normally automatic if not acknowledged after a delay of:

- A. 2 - 5 minutes
- B. 10-15 minutes
- C. 1 - 2 minutes
- D. 3.5 - 4.5 minutes

29E5 For a MF/HF DSC Distress call which statement is false?

- A. It always requests J3E Voice follow-on communications so other vessels can hear the Mayday.
- B. It will send the minimal necessary information using the "Distress Button" or "Distress Hot Key."
- C. It will send a more detailed Distress format if time permits and operator data entries are correctly performed.
- D. It does not contain all the information normally of interest in on-scene Distress communications.

29E6 Which statement regarding an MF/HF DSC Distress call is true:

- A. Follow on communications should be presumed to take place on the SITOR (NBDP) 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 in the original Distress alert.
- D. Both the nature of Distress and the alternate emission and frequency must be specified for follow-up communications in the original Distress alert.

Answers:      29E1 - A      29E2 - B      29E3 - C      29E4 - D      29E5 - A      29E6 - B

**Section-E: Distress, Urgency & Safety Communications: Key Topic #30: Follow-On Voice Transmission:**

30E1 If a VHF-DSC Distress alert is transmitted what channel is used for follow-on voice transmission?

- A. Ch-12
- B. Ch-70
- C. Ch-13
- D. Ch-16

30E2 If a MF-DSC Distress alert is transmitted what frequency is used for follow-on voice transmission?

- A. 2182.0 kHz
- B. 2760.0 kHz
- C. 2187.5 kHz
- D. 2174.5 kHz

30E3 If a HF-DSC Distress alert is transmitted what frequency is used for follow-on voice transmission?

- A. 8376.5 kHz
- B. 8291.0 kHz
- C. 8401.5 kHz
- D. 8201.0 kHz

30E4 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, Ship's position, nature of distress and assistance requested.
- B. Mayday 3x, this is Ship's Name/Call Sign once, Ship's position, nature of distress and assistance requested.
- C. Mayday 3x, this is Ship's Name/Call Sign 3x, Ship's position, nature of distress and assistance requested.
- D. All Stations 3x, this is Ship's Name/Call Sign 3x, Ship's position, nature of distress and assistance requested.

30E5 What information should be included in a Distress follow on voice transmission after a DSC Alert?

- A. Ship's Name and Call Sign, MMSI number, DSC frequency used and any other information that might facilitate rescue.
- B. Ship's position, Ship's IMN, the nature of distress and assistance requested.
- C. Ship's Name and Call Sign, MMSI number & position, the nature of distress and assistance requested.
- D. Ship's Name and Call sign, repeat IMN, provide any other information that might facilitate rescue.

30E6 What information is not vital in a Distress follow on voice transmission after a DSC Alert?

- A. Ship's position, nature of distress and assistance requested.
- B. Ship's Name, Call Sign and MMSI number.
- C. Physical description of the vessel and number of POB.
- D. Company emergency contact information.

Answers:      30E1 - D      30E2 - A      30E3 - B      30E4 - C      30E5 - C      30E6 - D

**Section-E: Distress, Urgency & Safety Communications: Key Topic #31: Response to a Distress Alert:**

31E1 Which statement is true regarding the receipt and acknowledgement of actual Distress follow-on communications by GMDSS ship stations?

- A. 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.
- B. 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.
- C. 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.
- D. Alerts concerning navigational hazards are second only to Safety traffic.

31E2 What is meant by the acronym "EOS" in a DSC message?

- A. Error Of Sequence
- B. End Of Signals
- C. Equal Operating Signals
- D. End Of Sequence

31E3 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 radiotelephone Distress and Safety frequency associated with the Distress and Safety calling frequency on which the Distress alert was received.
- B. Set watch on the DSC alerting frequency in the band of frequencies the 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.

31E4 What is meant by the acronym "ECC" in a DSC message?

- A. Every Cipher Counted
- B. Error Check Character
- C. Error Cannot Confirm
- D. Even Characters Counted

31E5 What action should be taken on receipt of a DSC Distress alert?

- A. Read the display screen and/or printout, silence the alarm, always call the Master to confirm the alert is real.
- B. Silence the alarm, read the display screen and/or printout and listen for any follow on transmissions.
- C. Listen for any follow on voice/TELEX transmission on the appropriate DSC frequency.
- D. Silence the alarm, read the display screen and/or printout, only call the Master if the alert is within 500 NM.

31E6 What action should be taken if a Distress alert is received on the 12 MHz DSC frequency?

- A. Use DSC to acknowledge/relay the alert using the 12 MHz DSC frequency.
- B. Do nothing. Ship is too far away to render assistance.
- C. Set the transceiver to 12290.0 kHz simplex J3E emission.
- D. Set the transceiver to 12520.0 kHz simplex F1B/J2B emission.

Answers:      31E1 - C      31E2 - D      31E3 - A      31E4 - B      31E5 - B      31E6 - C

**Section-E: Distress, Urgency & Safety Communications: Key Topic #32: Distress Relays:**

32E1 Your ship received a Distress relay from a coast station on DSC freq. 2187.5 kHz. What action should the watch officer take?

- A. Retransmit the DSC call on 2187.5 kHz to other vessels in the vicinity to assist in SAR operations.
- B. Monitor 2182.0 kHz to determine if there are any genuine Distress communications.
- C. Transmit a voice "Mayday Relay" call on 2187.5 kHz to other vessels in the vicinity.
- D. Transmit a voice "Mayday Relay" call on 2182.0 kHz to other vessels in the vicinity.

32E2 Your ship received a Distress relay from a coast station on DSC VHF channel 70. What action should the watch officer take?

- A. Retransmit the DSC call on Ch-70 to other vessels in the vicinity.
- B. Monitor Ch-06 to determine if there are any genuine Distress communications.
- C. Monitor Ch-16 to determine if there are any genuine Distress communications.
- D. Transmit a voice "Mayday Relay" call on Ch-13.

32E3 Under what condition would you not 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 of the alert is observed.
- C. No distress traffic has been heard and the DSC alert is unacknowledged via DSC.
- D. A coast station DSC acknowledgment of the original Distress alert was received by your vessel.

32E4 The relay of DSC Distress alerts:

- A. Can quickly overburden the GMDSS systems in the vicinity with improperly transmitted or inappropriately relayed DSC calls.
- B. Was not originally an intended function of the GMDSS system but now is the preferred method to notify an RCC.
- C. Remains the preferred method for passing Distress message traffic to an RCC or Coast Station.
- D. Should always be done immediately to ensure a Coast Station receives the DSC Distress Alert.

32E5 Transmission of a Distress alert by a station on behalf of another vessel actually in Distress should not 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. When communications between the Distress vessel and a Coast station are already in progress.

32E6 DSC Relays of DSC Distress alerts received from other ships should be done?

- A. Only when the original DSC call is not acknowledged and no follow-on Distress traffic has been heard.
- B. Only by Inmarsat-C TELEX with Distress priority conveying the follow-on Distress traffic that has been heard.
- C. Only by Inmarsat-B voice or TELEX with Distress priority if no follow-on Distress traffic has been heard.
- D. Preferably by MF/HF voice or TELEX directly to the RCC conveying the follow-on Distress traffic that has been heard.

Answers:      32E1 - B      32E2 - C      32E3 - D      32E4 - A      32E5 - D      32E6 - A



**Section-E: Distress, Urgency & Safety Communications: Key Topic #33: Action-False Distress Alert:**

33E1 What action should you take after sending a false Distress alert on VHF?

- A. Make a voice announcement to cancel the alert on Ch-16.
- B. Send a DSC cancellation message on Ch-70.
- C. Make a voice announcement to cancel the alert on Ch-13.
- D. Make a voice announcement to cancel the alert on Ch-22A.

33E2 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 2182.0 kHz.
- C. Make a voice announcement to cancel the alert on 2174.5 kHz.
- D. Send another DSC alert and follow on with voice on 2182.0 kHz.

33E3 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. Make a voice announcement to cancel the alert on 2182.0 kHz.
- D. Send a DSC alert on all 7 DSC frequencies and follow on voice on 2174.5 kHz.

33E4 What action should you take after sending a false Distress alert on 8 MHz?

- A. Make an "ALL STATIONS" call on all 5 H.F. TELEX channels canceling the alert.
- B. Make a "MAYDAY" call on 8414.5 kHz canceling the alert.
- C. Make an "Urgency" call on 8614.0 kHz canceling the alert.
- D. Make an "ALL STATIONS" call on 8291.0 kHz canceling the alert.

33E5 What action should you take after sending a false Distress alert on 12577.0 kHz?

- A. Make an "ALL STATIONS" call on the associated 12 MHz J3E frequency canceling the alert.
- B. No action is necessary.
- C. Make an "ALL STATIONS" call on all 5 H.F. TELEX frequencies canceling the alert.
- D. Send a message to the nearest RCC via Inmarsat canceling the alert.

33E6 What action should you take after sending a false or accidental Distress alert on Inmarsat-C?

- A. Press the "Distress Hot Keys" then press the "cancel" key.
- B. Select "Transmit" or "SEND/REC" menu and send a cancellation message via the LES used for the Distress alert.
- C. Do nothing until the RCC contacts your vessel to determine if the Distress alert was genuine.
- D. Select the cancel false Distress alert option in the Distress Setup Menu and re-transmit the call.

Answers:      33E1 - A      33E2 - B      33E3 - C      33E4 - D      33E5 - A      33E6 - B

**Section-E: Distress, Urgency & Safety Communications: Key Topic #34: Radio Silence – Resume Traffic:**

34E1 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 mitigate the risk of interference on a frequency or channel being used for emergency communications.

34E2 When can routine communications be resumed when radio silence has been imposed?

- A. 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.
- B. After determining that the frequency or channel appears to be no longer in use.
- C. After determining that geographic distance from the Distress situation will prohibit any other signal from interfering with emergency communications.
- D. If, in the master's opinion, communications on that frequency will interfere with emergency communications.

34E3 What is meant by the term "Seelonce Mayday"?

- A. Stations remaining off the air to safeguard proprietary information.
- B. Stations not directly involved with the on-going Distress communications may not transmit on the Distress frequency or channel.
- 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.

34E4 How is "radio silence" imposed?

- A. By the Land Earth Station (LES) controlling the Distress communications on that frequency.
- B. By the nearest Public Correspondence Coast Station.
- C. By the On Scene Coordinator (OSC) or the RCC chosen by the SAR Mission Coordinator.
- D. By the vessel first responding to the Distress call.

34E5 How are normal working conditions restored on a SITOR (NBDP) frequency on which radio silence had been imposed?

- A. The LES that imposed the radio silence must transmit a SITOR (NBDP) message stating "SILENCE FINI".
- B. 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".
- C. The RCC or Coast station that imposed the radio silence must transmit a SITOR (NBDP) message 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".

34E6 How are normal working conditions restored after radio silence has been imposed?

- A. All of these answers are correct.
- B. The Land Earth Station (LES) 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. The Rescue Coordination Center (RCC) that imposed the radio silence must transmit a voice message on the Distress frequency stating "SEELONCE FEENEE".

Answers:      34E1 - D      34E2 - A      34E3 - B      34E4 - C      34E5 - C      34E6 - D

**Section-E: Distress, Urgency & Safety Communications: Key Topic #35: Urgency Traffic:**

35E1 The Radiotelephone Urgency signal is:

- A. Mayday
- B. Securite
- C. Pan Pan
- D. Seelonce Feenee

35E2 Which of the following situations would normally use the Urgency priority?

- A. A crewmember falling over the side.
- B. A serious medical situation involving a crewmember with potential loss of life.
- C. An important meteorological warning concerning hazardous weather.
- D. A cargo shift or weather situation considered to be of greater hazard than would justify a Safety priority designation.

35E3 Which of the following situations would not properly use the Urgency priority?

- A. Abandoning the vessel just before sinking.
- B. Treatment of a crewmember breaking a leg in a cargo hold.
- C. Leaking oil from a minor tank fracture requiring a mandatory pollution report.
- D. An unexpected deviation in the forecast track line of a typhoon.

35E4 Which of the following situations would normally use the Urgency priority?

- A. A collision with the ship taking on water.
- B. A serious medical situation involving a crewmember.
- C. Important company communications related to an itinerary change.
- D. Scenarios concerning the Safety of navigation or important meteorological warnings.

35E5 The Urgency Priority should be used for:

- A. Messages concerning the Safety of Life At Sea (SOLAS).
- B. Messages containing information concerning the Safety of a mobile unit or person.
- C. Messages detailing important navigational warnings.
- D. Messages concerning On-scene communications.

35E6 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 a Safety message possibly concerning the safety of a mobile unit or person.
- C. None of these answers is correct.
- D. A mobile unit is in need of immediate assistance.

Answers:      35E1 - C      35E2 - D      35E3 - A      35E4 - B      35E5 - B      35E6 - C

**Section-E: Distress, Urgency & Safety Communications: Key Topic #36: Safety Traffic:**

36E1 When the GMDSS Radio Operator on watch hears "Securite" spoken three times, he can expect to receive the following information:

- A. The safety of vessel or person is in jeopardy.
- B. A message concerning the Safety of navigation.
- C. A vessel is in need of immediate assistance.
- D. A Coast Station sending an important traffic list.

36E2 Which of the following situations would normally use the Voice designation "Securite"?

- A. Messages concerning the Safety of Life At Sea (SOLAS).
- B. Messages containing information concerning the Safety of a mobile unit or person.
- C. Messages detailing important navigational warnings.
- D. Messages concerning On-scene communications.

36E3 Which of the following situations would normally use the Safety priority?

- A. Treatment of a crewmember with a broken leg that is not life-threatening.
- B. Treatment of a crewmember with a serious cardiac emergency.
- C. A fire in the generator flat/spaces.
- D. Loss of 5 containers with lashing gear over the side.

36E4 Which of the following situations would normally use the Safety priority?

- A. Important navigational or meteorological warnings.
- B. A serious medical situation involving a crewmember.
- C. An unanticipated warning related to piracy or terrorism.
- D. Grounding in a way that could lead to imminent danger to the ship's crew.

36E5 The Radiotelephone Safety signal is:

- A. "Safety Safety Safety"
- B. "Pan Pan" repeated 3 times
- C. "Securite Securite" repeated 3 times
- D. "Securite" repeated 3 times

36E6 Which of the following situations would normally use the Safety priority?

- A. A scenario concerning an important navigational or meteorological warning.
- B. A serious medical situation involving a crewmember.
- C. A crewmember falling over the side.
- D. Important company communications involving weather routing.

**Section-E: Distress, Urgency & Safety Communications: Key Topic #37: Frequencies:**

37E1 Which of the following frequencies and modes is allocated for Distress alerting in GMDSS?

- A. 406 MHz via EPIRB, 1626.5-1645.5 MHz via Inmarsat and Channel 70 DSC plus six (6) MF/HF DSC frequencies.
- B. 1626.5-1645.5 MHz via Inmarsat, VHF CH-16 plus six (6) MF/HF DSC frequencies, 406 MHz via EPIRB.
- C. Channel 70 DSC plus six (6) MF/HF DSC frequencies, 7 voice follow-on and 6 telex follow-on frequencies.
- D. Mayday on VHF Channel 70 and the other six voice follow-on frequencies.

37E2 Which of the following frequencies is designated for On-scene Distress and Safety communications?

- A. 4209.5 kHz
- B. 2174.5 kHz
- C. 518.0 kHz
- D. 490.0 kHz

37E3 Which channel is designated for GMDSS Digital Selective Calling?

- A. Ch-06
- B. Ch-16
- C. Ch-70
- D. Ch-83

37E4 How many MF frequencies are available for DSC Distress related calls?

- A. Five
- B. Four
- C. Two
- D. One

37E5 How many HF frequencies are available for DSC Distress related calls?

- A. Five
- B. Four
- C. Two
- D. One

37E6 How many frequencies are available under GMDSS for DSC Distress-related calls?

- A. Six
- B. Seven
- C. Four
- D. Five

Answers:      37E1 - A      37E2 - B      37E3 - C      37E4 - D      37E5 - A      37E6 - B

**Section-E: Distress, Urgency & Safety Communications: Key Topic #38: Other Procedures:**

38E1 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. No additional steps are needed as the SART and EPIRB will both automatically float free and operate properly.
- D. Secure the EPIRB to the survival craft and mount the SART in a position to maximize its elevation.

38E2 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. Transmit Distress calls by HF/MF/VHF DSC or Inmarsat.
- B. Switch off EPIRB and SART manually.
- C. Notify the RCC (Rescue Coordination Center) through VHF FM on channel 13.
- D. Transmit Distress calls by activating the radiotelegraph automatic alarm signal.

38E3 DSC is used primarily to:

- A. Receive weather warnings, navigational notices and other Maritime Safety Information.
- B. Transmit and receive Distress, Urgency and Safety alerts and routine calls to and from other ships and coast radio stations.
- C. Provide routine communications with the ship owner.
- D. Report ship's position to search-and-rescue authorities via satellite.

38E4 GMDSS vessels equipped for Sea Areas 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. At all times when underway.
- D. When directed to do so by a cognizant rescue authority.

38E5 Which statement is true regarding Distress communications under GMDSS?

- A. Distress communications by (SITOR) NBDP should be in the BFEC mode when in two-way communications with the Coast Guard or other coast radio stations.
- B. The Rescue Coordination Center may not appoint another station to coordinate Distress traffic relating to the incident.
- C. The Rescue Coordination Center (RCC) is responsible for controlling a search and rescue operation, will coordinate the Distress traffic relating to the incident and may appoint another station to manage the Distress traffic.
- D. Initial Distress communications by (SITOR) NBDP should be in the ARQ mode to broadcast them to the Coast Guard, other coast radio stations and other ship stations.

38E6 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 2182.0 kHz.
- C. Maintain a continuous DSC watch on VHF channel 16.
- D. Maintain a continuous DSC watch on VHF channel 70.

Answers:      38E1 - D      38E2 - A      38E3 - B      38E4 - C      38E5 - C      38E6 - D

**Section-F: Survival Craft Equip & S.A.R.: Key Topic #39: SART- Activation and Survival Craft Operation:**

39F1 What indication is given to the personnel in a survival craft of the approach of SAR craft?

- A. The Satellite EPIRB will change its strobe light pattern to indicate radar interrogation.
- B. The SART informs survivors when the SART switches to the "standby" mode.
- C. The SART may provide a visual or audible indication of interrogation by a 3-cm radar.
- D. The AIS SART will alarm to indicate that SAR craft with radars are getting close.

39F2 Which of the following would most likely not prevent a SART's signal from being detected?

- A. The rescue personnel were monitoring the 3-CM radar and the SART was mounted improperly in the lifeboat.
- B. The SART was mounted improperly in the survival craft and rescue personnel were monitoring the 10-CM radar.
- C. The rescue personnel were monitoring the 10-CM radar and the SART was properly mounted in the lifeboat.
- D. The SART was properly mounted in the lifeboat and rescue personnel were monitoring the 3-CM radar.

39F3 How can a SART's detection and effective range be maximized?

- A. The SART should be held or mounted as high as possible and in a vertical position.
- B. The SART should be placed in water immediately so it will begin transmitting.
- 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.

39F4 Which statement is NOT true regarding the SART?

- A. Responds to interrogations by a vessel's X-Band radar and transmits a signal.
- 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 12-blip signal for easy recognition.

39F5 At what point does a SART begin transmitting?

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

39F6 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.

Answers:      39F1 - C      39F2 - D      39F3 - A      39F4 - B      39F5 - B      39F6 - C

**Section-F: Survival Craft Equip & S.A.R.: Key Topic #40: SART – Radar Display – SAR – AIS SART:**

40F1 How does the searching vessel's radar interrogate a survival craft SART?

- A. Activate the IFF interrogation system.
- B. The SART responds automatically and transmits the 12-blip signal when it detects the search craft or other vessels' X-Band radar signal.
- C. Maintains 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 10-cm radar signal.

40F2 What radar display changes indicate the correct approach to a SART and what care should be taken in a SAR situation?

- A. The line of dots indicate the SART's position, the dots become increasing arcs as the distance to the SART lessens, rescuing vessels should increase speed to reach Distress more quickly.
- B. A line of dots on a radar screen rotates to indicate the SART's position along its line of bearing; rescuing vessels should steer for the center of the line of dots.
- C. The line of dots indicate the SART's position, the dots become increasing arcs as the distance to the SART lessens, rescuing vessels should reduce speed as the arcs get greater in degree.
- D. The line of dots indicate the SART's position, the dots become decreasing arcs as the distance to the SART lessens, rescuing vessels should reduce speed as the arcs lessen in degree.

40F3 How can rescue personnel detect that a SART is transmitting in the immediate vicinity?

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

40F4 What signal is detected as originating from an AIS SART and how is the signal displayed?

- A. An AIS SART signal is shown on any AIS receiver as a special MMSI-like coded symbol.
- B. The 3-cm radar reflections are converted to AIS signals and displayed on ECDIS/ARPA screens.
- C. An AIS SART transmits on AIS frequencies and the signals are converted to 3-cm radar targets for display on 3-cm radars.
- D. An AIS SART transmits on 9 GHz so that a 3-cm radar can display the signals.

40F5 How can vessel personnel detect the operation of a SART in its vicinity?

- A. A unique two-tone "warbling" signal heard on VHF-FM Ch-70.
- B. It will activate an AIS new signal alarm on the AIS receiver.
- C. The SART signal appears as a target that comes and goes--due to the effect of heavy swells on a SART.
- D. A unique 3-cm signal consisting of a 12-dot pattern radiating outward from a SART's position along its line of bearing.

40F6 What is not an advantage of an AIS SART signal when compared to a radar-based SART signal?

- A. The AIS SART can be detected much farther away than radar SART models.
- B. Not every AIS transmission needs to be received to achieve an accurate presentation of the location.
- C. The AIS SART position has GPS accuracy and transmits on AIS VHF frequencies.
- D. AIS SART units may be easier to find in poor radar target conditions.

Answers:      40F1 - B      40F2 - C      40F3 - D      40F4 - A      40F5 - D      40F6 - A



**Section-F: Survival Craft Equip & S.A.R.: Key Topic #41: SART: Testing and Battery Parameters:**

41F1 Which of the following statements concerning testing and maintenance of SARTs is true?

- A. Testing a SART should be done in a consistent manner & location to ensure a baseline history of proper results.
- B. Testing of the SART should never be done in port to prevent interference to other vessel's radars.
- C. A SART's battery must be replaced within ninety (90) days after the expiration date imprinted on the unit.
- D. An at-sea GMDSS maintainer is not able to test a SART because it is hermetically sealed.

41F2 Why is it important to limit the duration of testing a SART?

- A. Excessive testing causes "burn in" on the vessel's radar display.
- B. Testing in port or even at sea may cause interference to other radars or 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.

41F3 What statement is true regarding tests and maintenance that could be provided for the SART?

- A. Full verification within manufacturer's specifications by the on-board maintainer would be a requirement for all vessels in the A3 & A4 sea areas using measuring equipment to generate 9 GHz signals.
- B. Battery should be replaced within the 90 day grace period following the manufacturer's expiration date shown on the SART and the SART should only be tested at-sea to reduce interference to other vessels.
- C. Extreme care should be exercised because testing of the SART may be received by other vessels, may be interpreted as a Distress condition, or it may interfere with other vessels' safe navigation.
- D. Battery should be replaced with a new one before the manufacturer's expiration date shown on the SART and the SART should only be tested in port to reduce interference to other vessels.

41F4 Why should functional testing of a SART be minimized?

- A. Potential interference with safe navigation, notifying other vessels of an actual Distress and minimize power consumption.
- B. Minimize power consumption of the battery and only test at sea to reduce potential interference or confusion.
- C. Possibility of misinterpretation by other vessels as a Distress situation and only test in port to prevent potential interference with safe navigation or at-sea vessels.
- D. Potential interference with safe navigation, possible misinterpretation of an actual Distress, minimizes draining the battery.

41F5 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.

41F6 The SART is required to have sufficient battery capacity to operate in the stand-by mode for what period of time?

- A. Three days
- B. Four days
- C. Eight hours
- D. Forty-eight hours

Answers:      41F1 - A      41F2 - B      41F3 - C      41F4 - D      41F5 - A      41F6 - B

**Section-F: Survival Craft Equip & S.A.R.: Key Topic #42: EPIRB System Structure and Operation:**

42F1 Which is not 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 and the EPIRB's position is calculated.
- C. Information received from EPIRBs is time-tagged and transmitted to any Local User Terminal in the satellite's view.
- D. After the EPIRB's position is calculated using the Doppler shift COSPAS-SARSAT satellites provide follow-on SAR communications.

42F2 Which of the following satellite systems is of particular & dedicated importance to search and rescue missions under GMDSS?

- A. COSPAS/SARSAT
- B. Inmarsat
- C. GPS
- D. Iridium

42F3 Which of the following statements concerning COSPAS-SARSAT is false?

- A. 406 MHz EPIRBs are units that are used as alerting devices.
- B. Doppler frequency measurements provide more precise locations than GPIRB signals.
- C. The Doppler frequency measurement concept is used to determine the EPIRB's location.
- D. Satellites in a low-earth polar orbit detect EPIRB beacons on 406 MHz and relay the information to a Local User Terminal (LUT).

42F4 Which of the following statements concerning COSPAS-SARSAT is false?

- A. EPIRBs, ELTs, and PLBs use the system primarily for Distress alerting.
- B. These satellites monitor 406 MHz for EPIRB signals.
- C. After initiating a call request and selecting the LES, these satellites may be used for commercial messages.
- D. These satellites use Doppler shift measurement to determine the location of the beacons.

42F5 Which of the following statements concerning the EPIRB system is true?

- A. GOES weather satellites will provide alerting with complete worldwide coverage.
- B. COSPAS-SARSAT satellites always provides an alert and position report within 10 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 relay an alert and position report within 20 minutes of reception.

42F6 Which of the following statements concerning satellite EPIRBs is true?

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

Answers:      42F1 - D      42F2 - A      42F3 - B      42F4 - C      42F5 - C      42F6 - D

**Section-F: Survival Craft Equip & S.A.R.: Key Topic #43: EPIRB Alerting and Features:**

43F1 What features may be found on GMDSS satellite EPIRB units?

- A. Strobe light, Distress homing transmission on 406 MHz, float-free release bracket.
- B. Emergency transmission on 406 MHz, hydrostatic release, AIS homing frequency.
- C. Float-free release bracket, strobe light & Distress alert transmission on 406 MHz.
- D. Hydrostatic release, Distress alert transmission on 121.5 MHz, strobe light.

43F2 What feature is not a component of a 406 MHz satellite EPIRB?

- A. 121.5 MHz emergency homing transmitter.
- B. Emergency transmission on 406.025 MHz.
- C. Float-free release bracket.
- D. Aural locator signal.

43F3 What statement is true regarding 406 MHz EPIRB transmissions?

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

43F4 Which of the following is normally part of 406 MHz satellite EPIRBs?

- A. A strobe light, automatic float-free bracket, 1-watt 406-MHz alert beacon.
- B. A 5-watt 406-MHz alert beacon, Automatic Hydrostatic Release (ARM), strobe light.
- C. Automatic float-free bracket, 5-watt 121.5 MHz homing beacon, strobe light.
- D. Automatic Hydrostatic Release (ARM), 1-watt 121.5 MHz alerting beacon, strobe light.

43F5 Which of the following statements concerning EPIRBs is false?

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

43F6 Which of the following EPIRBs is most likely to be used to transmit a Distress alert signal?

- A. S-Band EPIRBs
- B. X-Band EPIRBs
- C. 406 MHz EPIRBs
- D. 121.5/243 MHz EPIRBs

Answers:      43F1 - C      43F2 - D      43F3 - A      43F4 - B      43F5 - B      43F6 - C

**Section-F: Survival Craft Equip & S.A.R.: Key Topic #44: Homing and Locating Signals:**

44F1 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.

44F2 Which piece of required GMDSS equipment is the primary source of transmitting locating signals?

- A. Radio Direction Finder (RDF).
- B. Survival Craft Transceiver.
- C. An EPIRB transmitting on 406 MHz.
- D. A SART transmitting on 406 MHz.

44F3 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. 406 MHz signal from a satellite EPIRB.
- D. A 121.5 MHz emergency transmitter in a satellite EPIRB.

44F4 What part of a satellite EPIRB may function as a visual aid to rescue vessels?

- A. Strobe light
- B. A 121.5 MHz emergency transmitter in a satellite EPIRB.
- C. 406 MHz signal from a satellite EPIRB.
- D. Loud beeping tone emitted by the unit, once activated.

44F5 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

44F6 Which device provides the best method to locate a ship in Distress or survival craft in the GMDSS?

- A. Satellite EPIRBs
- B. Radio Direction Finder
- C. MF/HF DSC
- D. VHF homing device

Answers:      44F1 - B      44F2 - C      44F3 - D      44F4 - A      44F5 - D      44F6 - A

**Section-F: Survival Craft Equip & S.A.R.: Key Topic #45: Survival Craft Transceivers:**

45F1 With what other stations may portable survival craft transceivers not communicate?

- A. Communication between the ship and survival craft transceivers ashore.
- B. Communication between the ship and its survival craft.
- C. Communication between rescue units and survival craft.
- D. Communication between multiple survival craft and with aircraft.

45F2 Equipment for radiotelephony use in survival craft stations under GMDSS must have what capability?

- A. Operation on 457.525 MHz.
- B. Operation on Ch-16.
- C. Operation on 121.5 MHz.
- D. Operation on Ch-70.

45F3 Equipment for radiotelephony use in survival craft stations under GMDSS must have what characteristics?

- A. Permanently-affixed antenna, watertight, power 1W or 25W.
- B. Watertight, power a minimum of 1W, operation on CH-16, Ch-13 & Ch-70.
- C. Operation on Ch-16, watertight, permanently-affixed antenna.
- D. Operation on Ch-16, Ch-13 & Ch-70, power 1W, permanently-affixed antenna.

45F4 Which statement is NOT true regarding the requirements of survival craft portable two-way VHF radiotelephone equipment?

- A. Operation on Ch-16
- B. Antenna must be permanently-affixed.
- C. Simplex (single frequency) voice communications only.
- D. Effective radiated power should be a minimum of 2.0 Watts.

45F5 Which statement is NOT true regarding the requirements of VHF Survival Craft Transceivers?

- A. Operation on Ch-13 is mandatory.
- B. Effective radiated power should be a minimum of 0.25 Watts.
- C. Simplex (single frequency) voice communications only.
- D. Operation on Ch-16 is mandatory.

45F6 Which statement is NOT true regarding the requirements of survival craft portable two-way VHF radiotelephone equipment?

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

Answers:      45F1 - A      45F2 - B      45F3 - C      45F4 - D      45F5 - A      45F6 - B

**Section-F: Survival Craft Equip & S.A.R.: Key Topic #46: On Scene Communications:**

46F1 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

46F2 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-16
- B. Ch-6
- C. Ch-13
- D. Ch-70

46F3 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. VHF Ch-16 and SITOR (NBDP) on 2174.5 kHz.
- C. HF radiotelephone on 21.820 MHz.
- D. SITOR (NBDP) on 2177.0 kHz and VHF Ch-16.

46F4 Which of the following frequencies have NOT been designated for GMDSS "On-scene" or SAR communications?

- A. VHF Ch-16
- B. MF radiotelephony on 2182.0 kHz
- C. SITOR (NBDP) on 2182.0 kHz
- D. HF radiotelephony on 4125.0 kHz

46F5 "On-scene" communications would best be represented by?

- A. Using Inmarsat-C "hot-key" function
- B. Sending DSC alert on VHF Ch-70
- C. SITOR (NBDP) on 2174.5 kHz
- D. SITOR (NBDP) on 4125.0 kHz

46F6 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-70, 4125 kHz J2B, 5680 kHz J3E
- C. VHF Ch-16, 4125 kHz F1B, 3023 kHz J3E
- D. VHF Ch-16, 4125 kHz J3E, 3023 kHz J3E

Answers:      46F1 - D      46F2 - A      46F3 - B      46F4 - C      46F5 - C      46F6 - D

**Section-F: Survival Craft Equip & S.A.R.: Key Topic #47: SAR-MCC-RCC: Systems & Procedures-1:**

47F1 Which action should the GMDSS radio operator take in a Distress situation when embarking in survival craft?

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

47F2 Which of these would be vital to a GMDSS SAR situation in polar regions?

- A. GOES satellites to receive Distress Alerts and HF Voice for follow-on and SAR activity.
- B. GOES satellites to receive Distress Alerts and Inmarsat Voice for follow-on and SAR activity.
- C. Inmarsat satellites to receive Distress Alerts and HF Voice for follow-on and SAR activity.
- D. COSPAS/SARSAT satellites to receive Distress Alerts and HF Voice for follow-on and SAR activity.

47F3 Which statement is not true regarding the COSPAS-SARSAT system?

- A. The position of the EPIRB is always transmitted in the outgoing transmission (unless the unit is a GPIRB).
- B. Signals received by low altitude, near-polar orbiting satellites are relayed to a ground receiving station (LUT).
- C. Doppler shift is used to locate the position of the EPIRB.
- D. EPIRBs are satellite beacons used as alerting & homing devices.

47F4 Which statement is NOT true regarding the COSPAS-SARSAT system?

- A. EPIRBs are satellite beacons used as alerting/locating devices.
- B. May be used to transmit public correspondence.
- C. Locates Distress beacons transmitting on 406 MHz.
- D. Doppler shift is used to locate the beacons.

47F5 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. Vessel MMSI number and position.

47F6 Which statement is false regarding the COSPAS-SARSAT system and EPIRB operations?

- A. The EPIRB's position is calculated by the system and passed to the MCC.
- B. The EPIRB transmits a unique Hex I.D. and vessel position that may be passed to the RCC.
- C. The EPIRB's position and Hex I.D. is passed instantaneously to the RCC.
- D. The EPIRB transmits a unique Hex I.D. that is passed to the RCC if it cannot be determined to be inadvertent by the MCC.

**Section-F: Survival Craft Equip & S.A.R.: Key Topic #48: SAR-MCC-RCC: Systems & Procedures-2:**

48F1 What actions should the GMDSS radio operator take prior to any potential Distress situation?

- A. Create a table or chart of all the DSC coast stations that might be used during the vessel's itinerary.
- B. All of these answers are good operational practice and should be consistently done.
- C. Prepare a detailed Distress message file on both satellite & MF-HF SITOR (NBDP) equipment containing all information needed in a Distress so it will be available for last-minute editing.
- D. Ensure all LES choices are correct and then updated properly as the vessel transits different SAR jurisdictions.

48F2 What information should be contained in a detailed Distress message that was not transmitted by an initial Distress "hot-key" alert?

- A. Vessel position, course & speed and the nature of Distress.
- B. The distress vessel's IMN and position at the time of alert.
- C. Vessel name & call sign, POB and all potential means to communicate with the vessel.
- D. Vessel name & call sign, distress vessel's IMN & vessel position.

48F3 Which GMDSS equipment is best suited to simultaneous long-range communications with an RCC/coast station and OSC vessels or SAR aircraft?

- A. MF-HF SITOR (NBDP) transmitters using telex follow on frequencies.
- B. Inmarsat Signals routed via the RCC to the SAR vessels & aircraft under their control.
- C. VHF transmitters to reach SAR aircraft and OSC vessels as well as the RCC/coast station.
- D. MF-HF SSB transmitters using voice follow-on frequencies.

48F4 Which statement is NOT true regarding an Inmarsat Distress Alert?

- A. USCG coast stations will receive the alert and immediately notify the correct RCC.
- B. The operator selection of LES will determine which associated RCC will receive the alert.
- C. If the operator selects an invalid or inoperative LES code the NCS for that service will intercept the call and reroute the alert.
- D. If the LES choice is not updated properly the Distress Alert might be routed to a non-optimum RCC, introducing delays and confusion into the Distress situation.

48F5 What are the best resources for researching and planning equipment setups and updates prior to any potential Distress situation?

- A. NGA Pub. 117, Inmarsat handbook or manufacturer's equipment manuals.
- B. Inmarsat handbook, FCC Part 80 or ITU List of Coast stations.
- C. ITU List of Coast stations, IMO GMDSS handbook, FCC Part 80.
- D. Inmarsat handbook, NGA Pub, 117 or ITU List of Coast stations.

48F6 Which statement is true regarding Inmarsat "hot-key" Distress Alerts?

- A. The LES programmed by the watch officers into the Distress Alert Update menu determines which RCC will receive your initial Distress Alert.
- B. The vessel's position is checked against the SAR jurisdictions and the proper LES updated as the vessel changes NAVAREAS.
- C. The GPS position updates the Distress Alert Update menu to the correct LES choice to ensure proper communications with an RCC.
- D. The Distress Alert defaults are set correctly by the manufacturer and then automatically updated.

Answers:      48F1 - B      48F2 - C      48F3 - D      48F4 - A      48F5 - D      48F6 - A



**Section-G: VHF-DSC Equipment & Communications: Key Topic #49: VHF Controls, Power and Range:**

49G1 Which of the following control selections may result in limited receiving range?

- A. Setting the squelch control to its maximum level.
- B. Setting the squelch control to its minimum level.
- C. The power switch is set to the "high" output position, resulting in receiver overloading.
- D. Setting the channel selection switch midway between channels 6 and 16.

49G2 At mid-day, what would be the best choice in attempting to communicate with a shore station 15 miles distant?

- A. 16 MHz band
- B. 156-164 MHz band
- C. 12 MHz band
- D. 22 MHz band

49G3 Which of the following factors does not normally affect the range of VHF transmissions?

- A. Salt water ingress into the antenna coaxial cable.
- B. Power level setting.
- C. Ionospheric refraction.
- D. Vessel antenna height.

49G4 Much longer than normal VHF communications distances are typically caused by:

- A. Changing power from 1W to 25 W.
- B. Skywave reflections from the D layer.
- C. Ionospheric activity in layers F1/F2.
- D. Atmospheric ducting or tropospheric propagation.

49G5 Describing VHF transmissions as "line of sight" does not mean:

- A. VHF communications are effective only with nearby stations within visual range of the bridge.
- B. Vessel antenna height will not affect the radius of propagation.
- C. The normal transmission range to a coast station is approximately is 10 NM.
- D. Coast station antenna height has no effect on the radius of transmission.

49G6 The effectiveness of VHF communications is maximized by:

- A. The adjustment of squelch for maximum receiver sensitivity, setting transmitter power to 1W & selecting an appropriate channel.
- B. Appropriate setting of the transmitter power, selecting an appropriate channel & adjustment of squelch for maximum receiver sensitivity.
- C. Selecting an appropriate channel, adjustment of squelch for minimum receiver sensitivity & setting transmitter power to 1W.
- D. Selecting an appropriate channel, adjustment of squelch for minimum receiver sensitivity, setting transmitter power to 25W.

Answers:      49G1 - A      49G2 - B      49G3 - C      49G4 - D      49G5 - A      49G6 - B

**Section-G: VHF-DSC Equipment & Communications: Key Topic #50: VHF Channel System:**

50G1 A VHF frequency channel pair of TX 157.200 MHz and RX 161.800 MHz would most likely be:

- A. A VTS frequency for VTS – Ship communications.
- B. A simplex Public Correspondence Coast Radio Station frequency.
- C. A simplex Private Coast Radio Station frequency.
- D. A duplex Public Correspondence Coast Radio Station frequency.

50G2 Which channel is utilized for the required Bridge-to-Bridge watch?

- A. VHF-FM on Ch-13 in most areas of the continental United States.
- B. DSC on Ch-70
- C. VHF-FM on Ch-16
- D. The vessel's VHF working frequency.

50G3 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.

50G4 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. Ensures that the "alpha" channels are correctly set to duplex for use in U.S. waters & on VTS channels.
- C. Changes selected international duplex channels to simplex channels for use in U.S. waters, on the "alpha" channels.
- D. Changes selected international simplex channels to duplex channels for use in U.S. waters, on the "alpha" channels.

50G5 The USA-INT control on VHF units:

- A. Was made necessary by a desire for more duplex 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. Was made necessary by a desire to convert simplex international channels to duplex channels in the U.S.

50G6 Proper and legal VHF operations require all of these except?

- A. The channel must be designated as valid for the nature or type of communications desired.
- B. Simplex, duplex and alpha channel modes must be correctly selected.
- C. The power level must be appropriately chosen by the operator.
- D. The correct bandwidth must be selected by the operator.

Answers:      50G1 - D      50G2 - A      50G3 - B      50G4 - C      50G5 - C      50G6 – D

**Section-H: Maritime Safety Information (M.S.I.): Key Topic #51: Navtex-1: Operations:**

51H1 How is mutual interference on 518 kHz among NAVTEX stations avoided?

- A. All stations transmit at the same time but stations are limited to daytime operation only to reduce the radius of propagation.
- B. Transmitter power is limited, station assignment codes are not shared by other NAVAREAS and stations alternate between daytime and nighttime operations.
- C. Transmissions scheduled on a time-sharing basis, power limited and station assignment codes are geographically separated.
- D. Station codes are not shared by other NAVAREAS, transmissions scheduled on a time-sharing basis and power is limited.

51H2 When do NAVTEX broadcasts typically achieve maximum transmitting range?

- A. Local noontime
- B. Afternoon
- C. Sunset
- D. Middle of the night

51H3 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. Initiate a request for Category A, B, L and D messages.
- D. Listen to appropriate VHF weather channel for repeat warnings.

51H4 Which of these cannot happen when a paper model NAVTEX receiver runs out of paper?

- A. The unit is unable to print messages and all subsequent MSI broadcasts may be missed until the paper is replaced.
- B. The system will automatically change from receiving MSI by NAVTEX to receiving it by SafetyNET™ so that no messages will be lost.
- C. It may give off either an audible and/or visual alarm.
- D. MSI messages may be missed because the unit cannot print them out.

51H5 Which of the following is the primary frequency that is used exclusively for NAVTEX broadcasts internationally?

- A. 2187.5 kHz
- B. 518 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.

51H6 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. Typically 200-400 nautical miles (360-720 km).
- D. It is limited to line-of-sight or about 30 nautical miles (54 km).

Answers:      51H1 - C      51H2 - D      51H3 - A      51H4 - B      51H5 - B      51H6 - C

**Section-H: Maritime Safety Information (M.S.I.): Key Topic #52: Navtex-2: Programming:**

52H1 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 SELCAL of the NAVTEX transmitting station.
- D. By pressing "00" in the transmitter's ID block.

52H2 How can reception of certain NAVTEX broadcasts be prevented?

- A. Stations are limited to daytime operation only.
- B. Coordinating reception with published broadcast schedules.
- C. The receiver can be programmed to reject certain stations and message categories.
- D. Automatic receiver desensitization during night hours.

52H3 Which of the following statements is true?

- A. No NAVTEX receiver can be programmed to reject category A, B, D and L messages since they are mandatory to be received via NAVTEX.
- B. Upon entering a new NAVTEX station's broadcast range, the GMDSS Radio Operator enters the station's SELCAL number.
- C. The GMDSS Radio Operator can select the "None" option in the message category menu.
- D. A GMDSS Radio Operator may choose to program certain NAVTEX receivers to reject category A, B, D and L messages if they are being received by another MSI system.

52H4 What means are used to prevent the reception of unwanted broadcasts by vessels utilizing the NAVTEX system?

- A. Programming the receiver to reject certain stations and message categories.
- B. Operating the receiver only during daytime hours.
- C. Coordinating reception with published broadcast schedules.
- D. Automatic receiver de-sensitization during night hours.

52H5 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. Upon entering a coastal area for the first time, the operator enters code KK to indicate "ready to receive NAVTEX".
- C. To reduce the number of messages, the operator can select code 00 to indicate "not in coastal passage".
- D. The operator can set most units to reject all messages except navigation, meteorological warnings, and search and rescue messages. If the unit will reject such messages it may be unsafe to do so.

52H6 Which messages are mandatory to be received and should not typically be rejected or disabled by the operator of a NAVTEX receiver?

- A. Navigational warnings, meteorological warnings, SAR information.
- B. Meteorological warnings, SAR information, Pilot Service Messages.
- C. Meteorological warnings, meteorological forecasts, navigational warnings.
- D. SAR information, navigational warnings, ice reports.

Answers:      52H1 - B      52H2 - C      52H3 - D      52H4 - A      52H5 - D      52H6 - A

**Section-H: Maritime Safety Information (M.S.I.): Key Topic #53: Navtex-3: Message Format:**

53H1 The NAVTEX message header contains the following?

- A. The first letter (from A to 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 answers is correct.

53H2 If the Inmarsat-C terminal is inoperative but the vessel remains within NAVTEX coverage -- which of the following message categories should not be disabled by the GMDSS Radio Operator?

- A. Navigational warnings, meteorological warnings and metrological forecasts.
- B. Meteorological warnings, Search and Rescue information and Navigational warnings.
- C. Search and Rescue information, navigational warnings and other electronic navaid messages.
- D. Search and Rescue information, Meteorological warnings and ice reports.

53H3 How are NAVTEX broadcasts transmitted?

- A. NAVTEX is transmitted by commercial coast radio stations following their traffic lists.
- B. NAVTEX is transmitted only when an Urgency or Distress broadcast is warranted.
- C. Using FEC techniques.
- D. No more often than every two hours and should immediately follow the radiotelephone silent periods.

53H4 What determines whether a NAVTEX receiver prints a particular type of message content from a programmed NAVTEX station?

- A. The serial number and type of message have already been received but additional printouts are generated to ensure receipt aboard the vessel.
- B. The subject indicator has been programmed for rejection by the operator but the message contains a priority override print command.
- C. The transmitting station ID covering your area has been programmed for rejection by the operator or has not been previously received.
- D. The serial number and type of message has not been previously received or the subject indicator has not been programmed for rejection.

53H5 Which information determines if a NAVTEX message is to be rejected?

- A. The second letter (from A to Z) in the header indicating the type of message.
- B. Transmitter identity (numerals from 1 to 26 identifying transmitting station within the NAVAREA).
- 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.

53H6 NAVTEX broadcasts are sent:

- A. Immediately following traffic lists.
- B. In categories of messages indicated by a single letter or identifier.
- C. On request of maritime mobile stations.
- D. Regularly, after the radiotelephone silent periods.

Answers:      53H1 - A      53H2 - B      53H3 - C      53H4 - D      53H5 - A      53H6 - B

**Section-H: Maritime Safety Information (M.S.I.): Key Topic #54: SafetyNET™ -1: Operations:**

54H1 Where NAVTEX cannot be feasibly established, what system can be implemented to provide an automated service in coastal waters to receive MSI?

- A. AMVER
- B. VHF DSC
- C. ARQ SITOR (NBDP)
- D. SafetyNET™

54H2 What action should a GMDSS Radio Operator take when SafetyNET™ Distress or Urgency messages are received by the vessel's EGC receiver?

- A. Aural and/or visual alarms are activated and require manual deactivation.
- B. 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.
- 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.

54H3 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. AMVER
- B. SafetyNET™
- C. VHF DSC
- D. ARQ SITOR (NBDP)

54H4 Aboard ship, SafetyNET™ messages can be received by which equipment/methods?

- A. VHF DSC on the weather channels.
- B. NAVTEX Receiver on 518 kHz or the Tropical Navtex frequency.
- C. EGC receiver of the vessel's Inmarsat-C SES.
- D. HF SITOR (NBDP) MSI frequencies.

54H5 SafetyNET™ messages can be received by which of the following shipboard equipment?

- A. NAVTEX
- B. MF and HF SITOR (NBDP)
- C. Inmarsat-C EGC receiver
- D. Inmarsat F77 EGC receiver

54H6 Maritime Safety Information is promulgated via satellite through which system?

- A. AMVER
- B. NAVTEX
- C. Inmarsat-M SES
- D. SafetyNET™

Answers:      54H1 - D      54H2 - A      54H3 - B      54H4 - C      54H5 - C      54H6 - D

**Section-H: Maritime Safety Information (M.S.I.): Key Topic #55: SafetyNET™ -2: Information:**

55H1 SafetyNET™ promulgates what type of information?

- A. Traffic Lists
- B. News advisories
- C. MSI
- D. MARAD

55H2 What kind(s) of broadcasts are not available through SafetyNET™?

- A. MSI and messages to specific geographic areas.
- B. Storm warnings
- C. Distress and Urgency bulletins
- D. Vessel traffic lists

55H3 Which satellite system promulgates Maritime Safety Information?

- A. Inmarsat-C SafetyNET™
- B. AMVER
- C. NAVTEX
- D. Inmarsat-M SES

55H4 What information is promulgated by the international SafetyNET™?

- A. Traffic Lists
- B. MSI
- C. Priority Messages
- D. MARAD

55H5 To receive all mandatory MSI using the SafetyNET™ system the vessel must:

- A. Notify the NAVAREA coordinator you are using SafetyNET™ for the receipt of MSI (Maritime Safety Information).
- B. Log-in and ensure the position is accurate to receive MSI for the NAVAREA the vessel is currently within.
- C. Set the receiver to your destination Inmarsat Ocean Region.
- D. Notify the NAVAREA coordinator you are using SafetyNET™ for the receipt of MSI (Maritime Safety Information) and set the receiver to your destination Ocean Region.

55H6 In using SafetyNET™ for the receipt of MSI (Maritime Safety Information):

- A. Only unscheduled Urgency and Distress messages will be received if the Inmarsat-C SES is not logged in.
- B. Both scheduled MSI and unscheduled Urgency and Distress messages will be received if the Inmarsat-C SES is logged in.
- C. All of these answers are correct.
- D. The Inmarsat-C SES must have Enhanced Group Calling (EGC) capability to receive MSI.

Answers:      55H1 - C      55H2 - D      55H3 - A      55H4 - B      55H5 - B      55H6 - C

**Section-H: Maritime Safety Information (M.S.I.): Key Topic #56: Enhanced Group Calling (EGC):**

56H1 Over what system are Enhanced Group Calls transmitted?

- A. COSPAS satellite
- B. Inmarsat satellite
- C. HF SITOR (NBDP) shore stations
- D. NAVTEX shore stations

56H2 How is a MSI (Maritime Safety Information) broadcast received by an Inmarsat-C SES that is 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. There is no loss of information since broadcasts of "vital" messages will be repeated.
- D. The radio operator can request retransmission of messages missing from numeric serial number succession.

56H3 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. AFRTS
- C. NAVAREAs
- D. EGC

56H4 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. EGC
- B. NAVTEX
- C. AMVER
- D. DSC

56H5 What services are available through Enhanced Group Calls?

- A. Maritime Safety Information and vessel traffic lists.
- B. Hourly NOAA weather broadcasts from the NWS.
- C. Coastal weather broadcasts.
- D. Maritime Safety Information and messages to pre-defined groups of subscribers.

56H6 What messages originate from registered information providers anywhere in the world and are broadcast to the appropriate ocean region via a LES?

- A. SafetyNET™ messages
- B. AMVER broadcasts
- C. Urgency messages
- D. NAVTEX broadcasts

Answers:      56H1 - B      56H2 - C      56H3 - D      56H4 - A      56H5 - D      56H6 - A



**Section-H: Maritime Safety Information (M.S.I.): Key Topic #57: H.F. MSI:**

57H1 Which HF SITOR (NBDP) mode would be selected to receive MSI broadcasts from high seas shore stations?

- A. FEC
- B. AM
- C. RTTY
- D. ARQ

57H2 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)

57H3 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)

57H4 Frequencies for receiving HF MSI (Maritime Safety Information) are:

- A. The same as used for NAVTEX
- B. The same as used for contact a Coast Radio Station using FEC
- C. Specified HF voice frequencies
- D. Specified HF SITOR (NBDP) frequencies

57H5 Which frequency/mode is authorized for use internationally for Maritime Safety Information transmissions?

- A. 4209.5 kHz using FEC mode
- B. 4209.5 kHz using ARQ mode
- C. 4125.0 kHz using simplex mode
- D. 4125.0 kHz using FEC mode

57H6 How many frequencies are assigned specifically for HF MSI broadcasts?

- A. 6
- B. 8
- C. 5
- D. 7

Answers:      57H1 - A      57H2 - B      57H3 - C      57H4 - D      57H5 - A      57H6 - B

**Section-H: Maritime Safety Information (M.S.I.): Key Topic #58: NAVAREAs:**

58H1 Which NAVAREA is associated with the western North Atlantic and the Caribbean Sea?

- A. NAVAREA X
- B. NAVAREA XI
- C. NAVAREA XII
- D. NAVAREA IV

58H2 Which sequence is associated with the 5 new Arctic Ocean NAVAREAs?

- A. NAVAREA XVIII, NAVAREA XX, NAVAREA XXI
- B. NAVAREA III, NAVAREA VII, NAVAREA XV
- C. NAVAREA IV, NAVAREA XII, NAVAREA X
- D. NAVAREA XII, NAVAREA X, NAVAREA XI

58H3 NAVAREAs referred to in NAVTEX are the same as used in:

- A. GMDSS sea areas
- B. Inmarsat SafetyNET™
- C. International Vessel Traffic Service
- D. Inmarsat ocean regions

58H4 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

58H5 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

58H6 A vessel on a voyage between Miami and Los Angeles via the Panama Canal would be operating in which NAVAREAS?

- A. II and III
- B. IV and V
- C. V and VI
- D. IV and XII

Answers:      58H1 - D      58H2 - A      58H3 - B      58H4 - C      58H5 - C      58H6 - D

**Section-I: Inmarsat Equip. & Comms: Key Topic #59: Sat-C, Power up, Self-Test, Controls & Lamps:**

5911 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 may log out of the Inmarsat-C system and turn the power off (unless the vessel decides to leave the unit on during the port stay.)
- 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.

5912 What action should always be taken before powering down an Inmarsat-C terminal or leaving one satellite footprint for another?

- A. An Inmarsat-C system must never be powered down or mandatory MSI messages will be lost.
- B. Send a message to the NCS advising arrival in port or request the NCS log your terminal in with the new satellite.
- C. No action is required -- the terminal will automatically log in with the new satellite when the NCS common channel is detected or after power up.
- D. Log out with the current NCS to inform them you are off the air or to enable a proper log in procedure with the new satellite.

5913 With most Inmarsat-C systems what should the indicator lamps do when powering up?

- A. All lamps should illuminate in a particular sequence, as per the operator's manual.
- B. The power on lamp should illuminate. Other lights remain off until a message is received.
- C. All lamps should light and stay illuminated.
- D. All lamps should light except the RED light.

5914 What is the importance of a successful log in indication, after power-up, on an Inmarsat-C terminal?

- A. The antenna Azimuth and Elevation controls are correctly adjusted.
- B. The terminal is enabled for routine incoming and outbound traffic.
- C. The receiver gain is properly adjusted for maximum signal.
- D. Unscheduled EGC MSI messages can no longer be received.

5915 On an Inmarsat-C system, what is the importance of a successful "SYNC" indication after power up?

- A. The system is not yet locked on to the NCS signal until a log-in command is performed.
- B. Sufficient signal strength on the NCS common channel is being received.
- C. There is company telex traffic being received on the NCS common channel.
- D. The NCS has confirmed log-in status is on so routine traffic can be sent and received.

5916 On an Inmarsat-C system an incoming EGC alarm sounds:

- A. When first powered on and when receiving Distress traffic.
- B. When receiving Distress traffic and all of the BALD MSI messages.
- C. To draw the operator's attention to an unscheduled Distress or Urgency message.
- D. To indicate the loss of NCS CC sync -- preventing the reception of unscheduled EGC messages.

Answers:      5911 - C      5912 - D      5913 - A      5914 - B      5915 - B      5916 - C

**Section-I: Inmarsat Equip. & Comms: Key Topic #60: Selecting an Inmarsat Ocean Region:**

60I1 Which satellite(s) would most likely be selected for use when the vessel is operating off the eastern shore of the United States?

- A. IOR
- B. AOR-W
- C. POR
- D. Either AOR-W or IOR will work.

60I2 Which satellite should be chosen when operating in the Eastern Gulf of Mexico?

- A. POR
- B. IOR
- C. AOR-W
- D. AOR-E

60I3 Which longitude corresponds to the AOR-W satellite for Inmarsat-B/C communications?

- A. 64E
- B. 178E
- C. 15.5W
- D. 54W

60I4 Which longitude corresponds to the AOR-E satellite for Inmarsat-B/C communications?

- A. 15.5W
- B. 64E
- C. 178E
- D. 54W

60I5 Which longitude corresponds to the POR's satellite location for Inmarsat-B/C communications?

- A. 64E
- B. 15.5W
- C. 54W
- D. 178E

60I6 Which longitude corresponds to the IOR's satellite location for Inmarsat-B/C communications?

- A. 64E
- B. 178E
- C. 15.5W
- D. 54W

Answers:      60I1 - B      60I2 - C      60I3 - D      60I4 - A      60I5 - D      60I6 - A

**Section-I: Inmarsat Equip. & Comms: Key Topic #61: Inmarsat Log-in & Log-out:**

6111 Which action must be taken to ensure that incoming message traffic of all priority levels will be received through Inmarsat-C?

- A. The GMDSS Radio Operator must log-in to the desired satellite (if the unit did not automatically do so.)
- B. No additional action is necessary after turning on the receiver and aiming the antenna at the desired satellite.
- C. The system needs only to be commissioned and turned on.
- D. The GMDSS Radio Operator must log-in to the desired satellite and receive the message reference number (MRN) from the LES.

6112 When logging into the Inmarsat system using Inmarsat-C, it is necessary to:

- A. Enter your IMN.
- B. Select the Ocean Region.
- C. Enter the LES answer back.
- D. Call the LES and inform them that you are now operating in the appropriate ocean region.

6113 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. No action is required -- the unit will scan for another satellite and log in.

6114 What is the primary danger of improperly logging out?

- A. The vessel will be barred in the future from sending traffic through an LES.
- B. The NCS ensures that improper log-out procedures do not occur.
- C. Scheduled MSI may not be available through the Inmarsat-C terminal.
- D. Your company or another ship may accrue significant charges when their traffic is repetitively sent to your unavailable terminal.

6115 Which of these can take place on an Inmarsat-C terminal that has synch with the NCS CC but has not yet performed a successful login?

- A. Reception of unscheduled MSI Urgency and Distress messages.
- B. Transmission of synoptic weather reports and company traffic.
- C. Reception of the mandatory scheduled BALD MSI messages.
- D. Reception of company traffic related to ship's business.

6116 Which of the following is not an example of a failure to log-out properly?

- A. Turning off the power prior to logging out with the NCS.
- B. A message on the screen or printer from the NCS.
- C. Sailing the vessel into a shadowing or local RF interference situation before logging out.
- D. Sailing out of the footprint of a satellite before logging out.

Answers:      6111 - A      6112 - B      6113 - C      6114 - D      6115 - A      6116 - B

**Section-I: Inmarsat Equip. & Comms: Key Topic #62: Inmarsat General System Operations-1:**

62I1 What is the primary function of an NCS?

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

62I2 What is the primary function of a LES?

- A. To provide direct communications between the Inmarsat station placing a call and the station receiving the call.
- B. To monitor and control communications through the Inmarsat satellite for which it is responsible.
- 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.

62I3 Messages are transmitted by an Inmarsat LES according to what criteria?

- A. First In, First Out
- B. Priority
- C. Last In, First Out
- D. Serial Number

62I4 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 for each Inmarsat Service (B, C, F77 and M).
- C. Four satellites in geo-stationary orbit approximately 22,184 miles above the equator.
- D. Through coordinated use of COSPAS-SARSAT satellites.

62I5 What is meant by the characters GA+ on an Inmarsat terminal?

- A. Go ahead for store & forward telex operations.
- B. The instruction to "give address".
- C. Go ahead for live telex operations.
- D. General Address (to all stations).

62I6 What is the purpose of a CODEC?

- A. Noise and echo-canceling used in TELEX operation.
- B. To enable Distress communications.
- C. To enable data communications.
- D. To convert analog voice signals to digital transmissions.

Answers:      62I1 - D      62I2 - A      62I3 - B      62I4 - C      62I5 - C      62I6 - D

**Section-I: Inmarsat Equip. & Comms: Key Topic #63: Inmarsat General System Operations-2:**

6311 What is an MRN?

- A. Mobile Registration Number, provided by the FCC.
- B. Mobile Registration Number, provided by IMO.
- C. Message Reference Number, provided by the LES.
- D. Vessel's call sign

6312 To keep the Inmarsat-B or F77 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

6313 The Inmarsat telephone and TELEX communications channel usage scheme is:

- A. One ship per telephone channel and many ships per TELEX channel.
- B. Many ships on the same TELEX analog channel and many ships on the same TDM telephone 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.

6314 What is an "Inmarsat Mobile Number"?

- A. This identifies the vessel's selective calling (SELCAL) number.
- B. This is the Inmarsat number that is assigned to a unit for incoming or outgoing 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™.

6315 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 provide coverage to vessels in nearly all of the world's navigable waters.
- C. They are in an equatorial orbit, in order to provide true global coverage.
- 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.

6316 What is the primary purpose of an Inmarsat LES?

- A. The LES is required for ship-ship Inmarsat communications, ship-shore communications are handled by terrestrial Coast Radio Stations.
- B. The LES monitors all operations of the satellite and assigns channels and frequencies to the vessel.
- C. The LES makes the satellite connection between the vessel and the requested destination for all types of services.
- D. The LES is dedicated only to processing all vessel Distress priority calls.

Answers:      6311 - C      6312 - D      6313 - A      6314 - B      6315 - B      6316 - C

**Section-I: Inmarsat Equip. & Comms: Key Topic #64: Inmarsat-B or F77 Equipment and Operations:**

64I1 How is a signal radiated from an Inmarsat-B or F77 system's antenna?

- A. 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.
- B. It is a highly focused directional signal that must be beamed at the desired satellite.
- 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.

64I2 Which mode of Inmarsat-B communications may be possible with a lower received signal strength?

- A. Fax
- B. Voice Communications
- C. TELEX
- D. Binary computer file transfers

64I3 What is the purpose of the second I.D. in an Inmarsat-B or F77 SES?

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

64I4 What is the effect of having five periods (e.g. ....) in the text of a TELEX transmission on an Inmarsat-B SES?

- A. The transmission will automatically terminate after those characters are transmitted.
- B. Only the first period will be routed to the receiving party.
- C. Only the first two periods will be routed to the receiving party.
- D. This will automatically trigger the reversal of charges to the receiving party.

64I5 Why is the automatic answerback request (WRU) first used by the LES after an Inmarsat-B TELEX call has been placed from a ship?

- A. Let the LES operator know the printer is functioning correctly.
- B. Get the identity of the ship station and start the channel assignment process.
- C. Verify that there is a good connection with no transmission errors.
- D. Identify the SES making the request.

64I6 When engaging in voice communications via an Inmarsat-B or F77 terminal, what procedures are used?

- A. CODECs are used to digitize the voice signal.
- B. Noise-blanking must be selected by the operator.
- C. The voice signal must be compressed to fit into the allowed bandwidth.
- D. The voice signal will be expanded at the receiving terminal.

Answers:      64I1 - B      64I2 - C      64I3 - D      64I4 - A      64I5 - D      64I6 - A



**Section-I: Inmarsat Equip. & Comms: Key Topic #65: Inmarsat-C: Equipment and Operations-1:**

65I1 Which mode of communications is NOT possible through an Inmarsat-C SES?

- A. Shore-to-ship Facsimile
- B. Data
- C. TELEX
- D. Emergency Activation

65I2 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.

65I3 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.

65I4 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. The TELEX message is stored until the mailbox is accessed by the station desiring to retrieve their message.
- D. This is a store and forward network, with an intermediate step that means there is no direct connection between ship and shore users.

65I5 With an Inmarsat-C LES, how are messages routed to receiving stations?

- A. All messages are forwarded via a store and forward network.
- B. Direct connections are made to the receiving stations via gateways.
- 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.

65I6 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.

Answers:      65I1 - A      65I2 - B      65I3 - C      65I4 - D      65I5 - A      65I6 - B

**Section-I: Inmarsat Equip. & Comms: Key Topic #66: Inmarsat-C: Equipment and Operations-2:**

6611 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.

6612 Which of the following best describes a shipboard Inmarsat-C system?

- A. A small, lightweight terminal capable of providing satellite store-and-forward message communications.
- B. A satellite communications system that provides real-time connectivity.
- 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.

6613 Which of the following modes of communications are available when using Inmarsat-C?

- A. Fax reception
- B. TELEX and e-mail
- C. 14400 BPS Data
- D. Voice transmissions

6614 Which mode of communication is possible through an Inmarsat-C SES?

- A. SITOR (NBDP)
- B. Radiotelephone
- C. TELEX and e-mail
- D. DSC

6615 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. x.400 data services

6616 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.

Answers:      6611 - D      6612 - A      6613 - B      6614 - C      6615 - C      6616 - D

**Section-I: Inmarsat Equip. & Comms: Key Topic #67: Compare and Differentiate "B" and "C" Terminals:**

67I1 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. Inmarsat-B units are not capable of data communications, but Inmarsat-C units are capable of data communications.
- C. Both Inmarsat-B and Inmarsat-C units can send data as well as send messages to fax machines.
- D. None of these answers is correct.

67I2 When Inmarsat-B and Inmarsat-C terminals are compared:

- A. Inmarsat-B antennas are larger, 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. Inmarsat-B antennas are larger, but directional for higher gain, while Inmarsat-C antennas are smaller and non-parabolic, and do not require aiming at the satellite.

67I3 Which statement concerning Inmarsat-B and Inmarsat-C terminals is correct?

- A. Inmarsat-B terminals require AZ/EL setup and gyro input, in order to enable automatic satellite tracking.
- B. Inmarsat-B terminals require gyro and GPS input, in order to enable automatic satellite tracking.
- C. Inmarsat-C terminals require only GPS 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.

67I4 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-C antennas are smaller, with passive non-parabolic antennas but no rewind capability.
- C. Inmarsat-B antennas are larger, with passive non-parabolic antennas that require rewind capability.
- D. Inmarsat-B antennas are larger, with stationary parabolic antennas but no rewind capability.

67I5 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.

67I6 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.

Answers:      67I1 - C      67I2 - D      67I3 - A      67I4 - B      67I5 - B      67I6 - C

**Section-I: Inmarsat Equip. & Comms: Key Topic #68: Selecting L.E.S. and L.E.S. ID Numbers:**

68I1 Which Inmarsat Earth stations would be available for Inmarsat-C traffic if the vessel is off the Pacific Coast of the United States but logged-in to the AOR-W satellite?

- A. EIK (Norway), Tangua (Brazil), Thermopylae (Greece)
- B. Southbury (USA), Burum (Netherlands), or EIK (Norway).
- C. Santa Paula (USA), Psary (Poland), Yamaguchi (Japan).
- D. Beijing (PRC), Fucino (Italy), Nudol (Russia).

68I2 Which Inmarsat Earth stations would be available for Inmarsat-B traffic if the vessel is off the Atlantic Coast of the United States and tracking the AOR-E satellite?

- A. Fucino (Italy), Thermopylae (Greece) or Haiphong (Vietnam).
- B. Santa Paula (USA), Beijing (PRC), Sentosa (Singapore).
- C. Southbury (USA), Burum (Netherlands), or EIK (Norway).
- D. Haiphong (Vietnam), Burum (Netherlands), or EIK (Norway).

68I3 Which LES should a GMDSS Radio Operator select to update a Distress alert message if the vessel is in the southern Pacific Ocean near the Dateline?

- A. Santa Paula (USA) or Beijing (PRC) would be the best choice depending on SAR jurisdiction.
- B. Kumsan (South Korea) or Sentosa (Singapore) would be the best choice depending on SAR jurisdiction.
- C. Yamaguchi (Japan) or Nakhoda (Russia) would be the best choice depending on SAR jurisdiction.
- D. Auckland (New Zealand) or Santa Paula (USA) would be the best choice depending on SAR jurisdiction.

68I4 Which Inmarsat Earth stations could a GMDSS Radio Operator select for routine Inmarsat-C traffic if the vessel is in the Sea of Japan and logged-in to the POR satellite?

- A. Beijing (PRC), Santa Paula (USA), Auckland (New Zealand) or Sentosa (Singapore).
- B. Auckland (New Zealand), EIK (Norway), Sentosa (Singapore) or Beijing (PRC).
- C. Yamaguchi (Japan), Southbury (USA), Pune (India) or Haifa (Israel).
- D. Southbury (USA), Thermopylae (Greece), Psary (Poland) or Tangua (Brazil).

68I5 Which Inmarsat Earth Stations could a vessel utilize for Inmarsat-B traffic if operating off the Pacific Coast of the United States and tracking the POR satellite?

- A. Lakhdaria (Algeria), Yamaguchi (Japan) or Sentosa (Singapore).
- B. Southbury (USA), Burum (Netherlands), EIK (Norway).
- C. Kumsan (South Korea), Burum (Netherlands), or Nakhoda (Russia).
- D. Santa Paula (USA), Auckland (New Zealand) or Yamaguchi (Japan).

68I6 Which Inmarsat Earth Stations could a vessel utilize for Inmarsat-C traffic if operating off the Atlantic Coast of the United States and synched to the AOR-W satellite?

- A. Southbury (USA), Burum (Netherlands), Eik (Norway).
- B. Santa Paula (USA), Aussaguel (France) or Eik (Norway).
- C. Southbury (USA), Santa Paula (USA) or Yamaguchi (Japan).
- D. Southbury, (USA), Nakhoda (Russia) or Beijing (PRC).

Answers:      68I1- B              68I2 - C              68I3 - D              68I4 - A              68I5 - D              68I6 - A

**Section-I: Inmarsat Equip. & Comms: Key Topic #69: Inmarsat-B and F77- Address, Dialing and Voice:**

69I1 A vessel is tracking the AOR-W satellite. To initiate an automatic ship-to-shore telephone contact to a shoreside party in the U.S. phone # 123-456-7890, via Southbury Earth Station, a valid Inmarsat operations/dialing sequence is?

- A. Select LES 001# then dial 0011234567890#
- B. Select LES #002 then dial 11234567890#
- C. Select LES 104# then dial 11234567890+
- D. Select LES 001+ then dial 123 4567890#

69I2 A vessel is tracking the AOR-E satellite. To initiate an operator assisted ship-to-shore telephone contact to a shoreside party in the U.S.A., # 202-456-7890, through a European Earth Station, a valid Inmarsat operations/dialing sequence would be?

- A. Select LES: 001# then dial 1112024567890
- B. Select LES: 012# then dial 1112024567890#
- C. Select LES: 001# then dial 0012024567890#
- D. Select LES: 001+ then dial 202 4567890

69I3 To request medical assistance from Inmarsat via voice (using an Inmarsat-B SES) what would be the correct procedure?

- A. Enter 36# and then the phone number for the Inmarsat medical advisory system.
- B. Enter 32# and then the phone number for the Inmarsat medical advisory system.
- C. Enter 32# to request the Inmarsat medical advisory system.
- D. Enter 32+ to request the Inmarsat medical advisory system.

69I4 Which of the following would be a valid sequence to request an automatically dialed ship-ship call to an F77 terminal on a vessel tracking the IOR satellite?

- A. 00583430662888#
- B. 00870430662888#
- C. 00583763240864 #
- D. 00870763240864#

69I5 If you are tracking the POR satellite and wish to communicate by voice using LES Santa Paula with another ship tracking the AOR-E satellite what is the proper procedure?

- A. Select LES: 001# then dial 00870323972310#
- B. Select LES: 004# then dial 11582430315036#
- C. Select LES: 001# then dial 00851636824323#
- D. Select LES: 003+ then dial 00581430326430+

69I6 Which of the following is a correct dialing sequence for a vessel tracking the AOR-W satellite to send a FAX to a U.S. destination via Southbury LES -- using an Inmarsat-B terminal and charging it to a credit card?

- A. 003# 1112125365110#
- B. 001# 3615036943254#
- C. 001+ 110243674932+
- D. 001# 0015036684376#

Answers:      69I1 - A      69I2 - B      69I3 - C      69I4 - D      69I5 - A      69I6 - B

**Section-I: Inmarsat Equip. & Comms: Key Topic #70: Inmarsat-B - Address, Dialing and Telex:**

70I1 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. +

70I2 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. 00230123456#
- C. 0012131234567#
- D. 00 1 213 1234567+

70I3 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+

70I4 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+

70I5 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

70I6 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. (51)440122+
- C. 51440122#
- D. 51440122+

Answers:        70I1 - D            70I2 - A            70I3 - B            70I4 - C            70I5 - C            70I6 - D

**Section-I: Inmarsat Equip. & Comms: Key Topic #71: Inmarsat-C Address to Ship Telex:**

71I1 From an Inmarsat-C terminal, which of the following are correctly formatted address for sending TELEX messages to two vessels in the AOR-W? First to an Inmarsat-B and second to an Inmarsat-C.

- A. 870366719020 first and 870436671929 second.
- B. 584436671929 first and 584366719020 second.
- C. 584366719020 first and 584436671929 second.
- D. 58136671920 first and 58136671929 second.

71I2 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. 870436772983
- B. 571436772983
- C. 581323500120+
- D. 581323500120

71I3 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. 870436559121
- C. 582436559121+
- D. 583436559121+

71I4 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. 583446976519
- C. 582446323868
- D. 870446976519

71I5 Which of the following is a correctly formatted Inmarsat-C address book entry for sending TELEX communications to an Inmarsat-B terminal in the AOR-W?

- A. 584765044177
- B. 584331014013
- C. 870331014013
- D. 584331014013+

71I6 Which of the following is a correctly formatted Inmarsat-C address book entry for sending TELEX communications to two vessels in the POR – the first Inmarsat-C and the second Inmarsat-B?

- A. 583452998777 first and 583323500120 second.
- B. 582450302113 first and 582761579051 second.
- C. 582452998777 first and 582323500120 second.
- D. 582600267098 first and 582450302113 second.

Answers:      71I1 - C      71I2 - D      71I3 - A      71I4 - B      71I5 - B      71I6 - C

**Section-I: Inmarsat Equip. & Comms: Key Topic #72: Address to Land Telex Terminal:**

72I1 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. 76945992+
- B. None of these answers is correct.
- C. 769 45992+
- D. (769)45992

72I2 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. (51)440122
- C. 51440122
- D. 51440122#

72I3 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. 58230842267
- B. 30842267+
- C. (582)30842267
- D. 30842267

72I4 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. 238276992+

72I5 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. 58375877829
- D. 75877829

72I6 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. 26776424
- B. 58126776424
- C. 582776424
- D. 26776424+

Answers:      72I1 - B      72I2 - C      72I3 - D      72I4 - A      72I5 - D      72I6 - A



**Section-I: Inmarsat Equip. & Comms: Key Topic #73: Address to a FAX Terminal:**

73I1 Which of the following are correctly formatted Inmarsat-C address book entries for sending communications to two fax machines on vessels in the AOR-W? First is an F77 terminal and second an Inmarsat-B terminal.

- A. 870768790319 and then 870334600340
- B. 8704336837925 and then 870452998777
- C. 584768790319 and then 584334600340
- D. 1 870 768790319 and then 1 870 334600340

73I2 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

73I3 Which of the following is a correctly formatted Inmarsat-C address book entry for sending communications to a fax machine on a vessel's Inmarsat-B terminal in the AOR-E?

- A. 581366269025
- B. 870466269025
- C. 870323972514
- D. 581761138138

73I4 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. 44+ 14248821902+
- D. 4414248821902

73I5 Which of the following is a correctly formatted Inmarsat-C address book entry for sending communications to a fax machine on a vessel's F77 terminal in the IOR?

- A. 870763240864
- B. 583442519372
- C. 1870442519372
- D. 870323500121

73I6 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. 810453345678
- C. 81(045)3345678
- D. 81 (045) 334-5678

Answers:      73I1 - A      73I2 - B      73I3 - C      73I4 - D      73I5 - A      73I6 - B

**Section-I: Inmarsat Equip. & Comms: Key Topic #74: Address to Internet, SMS or Special Addresses:**

74I1 How may an Inmarsat-C unit be used to send text communications to an Internet destination?

- A. Call up the file menu, insert the internet address in the first line of the file and use the SEND/REC or TRANSMIT menu to send the message.
- B. Use the SEND/REC or TRANSMIT menu, compose a text file and use the file attach function in the file menu.
- C. Internet addresses cannot be reached from an Inmarsat-C terminal without a separate e-mail computer.
- D. Compose a text file, use the SEND/REC or TRANSMIT menu & specify the recipient using the address book function (or by manual entry) for e-mail.

74I2 To send message traffic to an Internet address using an Inmarsat- C terminal -- what action would be required?

- A. Select the recipient using the e-mail code from the address book (or manually select the code.)
- B. Insert the Internet address into the correct field when creating the message file.
- C. Select the recipient using the e-mail code into the DNID/ENID setup e-mail function.
- D. Insert the Internet address into the correct field of the System setup e-mail function.

74I3 What menu function in Inmarsat-C terminals would typically be used to specify an Internet address destination?

- A. The System Setup menu to store all required e-mail destinations.
- B. The Address book function (or manual entry) in the SEND/REC or TRANSMIT menu.
- C. The Data Report menu to initiate the SEND/REC or TRANSMIT process.
- D. The menus for File Operations are used for adding the Internet address to the file.

74I4 Which of the following is not correct with regard to Inmarsat-C e-mail?

- A. It is possible to send e-mail messages from your ship's Inmarsat-C terminal to any e-mail address in the world.
- B. To receive e-mails from shore, your ship's e-mail address must be registered with an Inmarsat C Land Earth Station Service Provider.
- C. An additional hardware upgrade is required to enable your ship's Inmarsat-C terminal to send and receive e-mails.
- D. Not all land earth station service providers support e-mail service.

74I5 How would a notification of arrival be sent as a text to a mobile phone number using an Inmarsat-C unit?

- A. Mobile phone numbers cannot be reached by Inmarsat-C terminals because they lack voice capability.
- B. Use the Inmarsat-C voice handset to compose and transmit the text.
- C. Compose a text file, use the SEND/REC or TRANSMIT menu & specify the recipient using the address book function (or by manual entry) for SMS destinations.
- D. The mobile phone number is inserted as the first line of the text file and sent with the SEND/REC or TRANSMIT menu.

74I6 How may Inmarsat-C terminals be used for sending Urgency or Safety priority communications (such as synoptic weather reports)?

- A. Urgency & Safety EGC messages can only be received by an Inmarsat-C terminal.
- B. Enter PAN PAN or SECURITE into the heading of the message file so the message will be routed by priority.
- C. Only Routine or Distress priority messages can be sent from an Inmarsat-C terminal.
- D. Use the appropriate special 2-digit codes selected from the address book or manually enter the correct code into the SEND/REC or TRANSMIT menu.

Answers:      74I1 - D              74I2 - A              74I3 - B              74I4 - C              74I5 - C              74I6 - D

**Section-I: Inmarsat Equip. & Comms: Key Topic #75: Inmarsat Distress Communications:**

75I1 Which statement is false regarding an Inmarsat Distress request?

- A. The NCS in each ocean region automatically monitors the processing of such calls by other LESs in that region and processes calls if any anomaly exists in the system.
- B. If all satellite channels are busy then one of them will be preempted by a Distress request.
- C. Any Distress request is automatically switched to an Inmarsat Distress working frequency.
- D. Any request message with Distress priority is automatically recognized by the LES and a satellite channel is instantly assigned.

75I2 In what way(s) may a Distress message be initiated through Inmarsat?

- A. By transmitting the Distress message on the U.S. Coast Guard's dedicated monitoring channel.
- B. By adding the word "Distress" in the first line of the message's preamble.
- C. All Inmarsat units must use a dedicated key that can be pressed for immediate action.
- D. By pressing dedicated key(s) for this purpose or using menu-driven features to produce a Distress priority message.

75I3 How is an Inmarsat Distress priority message ordinarily initiated on board the vessel?

- A. By pressing one or more dedicated "Distress key" controls on the equipment.
- B. By dialing the correct code on the telephone remote unit.
- C. By contacting the LES operator and announcing a Distress condition is in progress.
- D. By contacting the LES operator using the radiotelephone Distress procedure "Mayday"... etc.

75I4 What must be done to disconnect an incoming TELEX message when voice Distress communications is desired via Inmarsat-B?

- A. Momentarily turn off the system power.
- 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. Depress the "Reset" switch to disconnect incoming message.

75I5 Why is the correct selection of the LES in the Distress Alert Setup menu so crucial?

- A. Each LES has its own dedicated RCC whose jurisdiction is defined by the LES selected.
- B. The LES choice determines the nationality of the RCC which will handle the Distress traffic and perform SAR duties or that will pass the particulars to the RCC with jurisdiction to coordinate the SAR situation.
- C. Inmarsat terminals use the GPS position to automatically determine the optimum LES choice in a Distress situation.
- D. The vessel need not select the LES because the NCS will always intercept a Distress priority call and route it to the closest RCC.

75I6 If an Inmarsat Distress Alert Setup menu contains an incorrect or unavailable LES code what happens to the Distress Alert transmission?

- A. The NCS updates the LES codes in the Distress Alert Setup menu as the vessel moves from ocean region to ocean region to ensure this does not happen.
- B. The NCS will send a Distress Alert Setup incorrect LES code alarm so the alert can be corrected and re-transmitted.
- C. The NCS will step in and route the Distress Alert transmission to an RCC.
- D. If the LES code is incorrect then the Distress Alert transmission is not detected by any RCC.

Answers:      75I1 - C      75I2 - D      75I3 - A      75I4 - B      75I5 - B      75I6 - C

**Section-I: Inmarsat Equip. & Comms: Key Topic #76: Satellite SAR-MCC-RCC:**

7611 What action would be the swiftest and most certain way to notify a RCC of a Distress situation aboard your vessel?

- A. Compose a detailed Distress message and send it to the closest LES to optimize the SAR response.
- B. Confirm the information in the Distress Alert Message setup menu is correct and use the “hot-key” or Distress Message Generator function on your satellite terminal.
- C. Press all of the “hot keys” available in the GMDSS console to ensure the RCC is notified.
- D. Send a multi-frequency DSC alert to ensure the RCC is notified regardless of Ionospheric propagation conditions.

7612 What information should be sent in a detailed satellite Distress message that was not included in the initial “hot-key” Distress Alert?

- A. Name/Call sign of vessel, vessel position, vessel description, all vessel I.D. numbers, LES code for Distress traffic.
- B. POB, vessel description, all vessel I.D. numbers, shore contact numbers, vessel position.
- C. Name/Call sign of vessel, POB, vessel description, all vessel I.D. numbers and shore contact numbers.
- D. Name/Call sign of vessel, nature of Distress, POB, vessel description and all vessel I.D. numbers.

7613 What actions should be taken to transmit a detailed satellite Distress message to a RCC handling your vessel’s initial “hot-key” Distress Alert?

- A. Compose a detailed Distress message, attach it to the Distress Alert Setup menu and re-transmit the “hot-key” Distress Alert.
- B. Call up and edit a pre-saved detailed Distress message, select the closest LES and press the “hot-key.”
- C. Compose a detailed Distress message, use the Transmit or SEND/REC menu and send it to both the RCC and to your company emergency contact number.
- D. Call up and edit a pre-saved detailed Distress message, use the Transmit or SEND/REC menu, select Distress priority and choose the best LES for the situation.

7614 What is your vessel’s obligation upon receipt of a Distress priority EGC message requesting that vessels report in response to a SAR situation?

- A. Silence the alarm, notify the master and send a message to the RCC with your vessel’s position and capabilities.
- B. Read the Distress EGC message and if the situation is too far away no response is required.
- C. Read the Distress EGC message and await instructions from the RCC as how to proceed to the distress.
- D. Silence the alarm, notify the Master and await instructions from the RCC as to whether your vessel is requisitioned or released from participation in SAR activity.

7615 What statement is true regarding LES codes and Inmarsat “hot-key” alert default menus?

- A. Automatic or manual updating of the LES code only needs to be done when switching to a different ocean region satellite.
- B. The SAR jurisdiction software automatically updates the “hot-key” menu based on the vessel’s position.
- C. The LES code is determined by the NAVAREA based on the vessel’s current position.
- D. The LES code must be updated by the officers depending upon the SAR jurisdictions the vessel transits and current ocean region satellite in use.

7616 Detailed Distress situation report message formats can best be found in?

- A. IAMSAR manual Volume III.
- B. ITU list of RCC and Coast stations.
- C. AMVER chapter of NGA PUB 117.
- D. FCC Title 47, Part 80.

Answers:        7611 - B            7612 - C            7613 - D            7614 - A            7615 - D            7616 - A

**Section-I: Inmarsat Equip. & Comms: Key Topic #77: EGC:**

77I1 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. Manually reset the alarm.
- B. 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.
- 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.

77I2 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. FleetNET™
- C. COSPAS-SARSAT
- D. InfoNET

77I3 What additional equipment provides the maximum availability for receiving SafetyNET™ broadcasts when the associated Inmarsat-C SES is engaged in communications?

- A. An integrated EGC receiver with the existing Inmarsat-C equipment.
- B. HF SSB can be used to receive voice MSI broadcasts.
- C. A separate EGC receiver.
- D. Automatic switching between Inmarsat-C and EGC functions.

77I4 Which of the following is utilized to transmit Enhanced Group Calls?

- A. COSPAS satellite
- B. HF SITOR (NBDP) shore stations
- C. NAVTEX shore stations
- D. Inmarsat satellite

77I5 What is the equipment arrangement that provides the maximum availability for reception of MSI broadcasts when using Inmarsat-C for TELEX communications?

- A.. Separate EGC receiver.
- B. Integrating EGC receiver with the existing Inmarsat-C equipment.
- C. Redundancy using HF SSB to receive voice broadcasts.
- D. Automatic switching between Inmarsat-C and EGC functions.

77I6 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 cannot specify receipt only by vessels within a specific geographical area, circular or rectangular.
- C. The originator of MSI information can 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.

Answers:      77I1 - A              77I2 - B              77I3 - C              77I4 - D              77I5 - A              77I6 - B

**Section-I: Inmarsat Equip. & Comms: Key Topic #78: Equipment Faults and Maintenance-1:**

7811 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 Land Earth 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 resulting in a loss of signal from the satellite.

7812 A vessel, before transiting the Panama Canal, on a voyage from San Diego to Miami, loses the ability to communicate via Inmarsat. The most likely cause is:

- A. The vessel has sailed beyond the coverage area of the Pacific satellite.
- B. The vessel has sailed beyond the coverage area of the Southbury Shore Station.
- C. The vessel has sailed beyond the coverage area of the Western Atlantic satellite.
- D. The satellite orbit is beyond the usable range of the SES.

7813 What can be the visual observation of a condition whereby it may be possible to initiate a reliable Inmarsat 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 on a meter or on the terminal of low receiver signal strength.
- C. An indication of a very high antenna elevation on the display terminal screen.
- D. An indication that the antenna has reached its maximum travel in one direction.

7814 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 (power output ) for improved signal levels.
- B. Enter Azimuth and Elevation values correctly so the Inmarsat-C SES can find the NCS CC.
- C. Remove stack deposits and other debris from the antenna to prevent degraded performance.
- D. Adjust a reference oscillator or synthesizer to tune the unit to the NCS CC.

7815 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 antenna dome.
- B. Adjust the station's EIRP.
- C. Adjust any front panel controls.
- D. Adjust a reference oscillator or synthesizer.

7816 Which functions may the holder of a GMDSS Radio Operator License NOT perform on the Inmarsat-C equipment?

- A. Maintain the antenna clear of soot, paint, etc.
- B. Log-on, traffic and log-off functions.
- C. Entry of position data and selection of LES.
- D. Optimize performance by adjusting the transmitter EIRP.

Answers:      7811 - D      7812 - A      7813 - B      7814 - C      7815 - C      7816 - D

**Section-I: Inmarsat Equip. & Comms: Key Topic #79: Equipment Faults and Maintenance-2:**

7911 What immediate remedy can be used to correct shadowing of the satellite signal by a shipboard obstruction?

- A. Relocate the mast or other obstruction.
- B. Raise the transmit power level.
- C. Change the ship's course.
- D. Increase the receiver gain.

7912 A vessel loses Inmarsat-B SES operation after a large course change. Which of the following could most likely cause this?

- A. Shadowing of the SES antenna by clouds or other weather formations.
- B. Misalignment of the shadow correction filter.
- C. The vessel sailed beyond the footprint of the satellite coverage.
- D. System loses gyro follow-up or a gyro system malfunction.

7913 Which statement is correct regarding a method that a vessel experiencing problems with shadowing of an Inmarsat-B (or F77) SES antenna by an on-board obstruction could use to attempt reliable communications?

- A. Change course to remove the shadow.
- B. Change the Coast Station ID programming.
- C. Install a shadow correction filter.
- D. Switch from TELEX to voice mode.

7914 Which of the following conditions does not typically impair Inmarsat-B communications ?

- A. An obstruction, such as a mast, blocking the signal between the satellite and the SES antenna when the vessel is steering a specific course.
- B. Normal precipitation from gales and storms.
- C. A satellite whose signal is on a low elevation, below the horizon.
- D. Travel beyond the effective radius of the satellite.

7915 A vessel is experiencing problems tracking the satellite in an Inmarsat-C SES while at sea. The problem is least likely caused by?

- A. Extremely heavy rain/snow storms.
- B. Local RF interference by in-port cell phone or other radio systems.
- C. Shadowing caused by an obstacle, such as a mast, between the SES antenna and the satellite.
- D. The vessel is on the fringe of the coverage area of the satellite.

7916 Which functions may the holder of a GMDSS Radio Operator License not perform on the Inmarsat-C equipment?

- A. Selection of LES for routine traffic.
- B. Maintain the antenna clear of soot, paint, etc.
- C. Adjust the azimuth and elevation values.
- D. Logon, traffic and logoff functions.

Answers:      7911 - C      7912 - D      7913 - A      7914 - B      7915 - B      7916 - C

**Section-J: MF-HF Equip. and Comms: Key Topic #80: MF-HF Panel Controls:**

80J1 Which modes could be selected to receive vessel traffic lists from high seas coast radio stations:

- A. AM and VHF-FM
- B. SSB and FEC
- C. ARQ and FEC
- D. VHF-FM and SSB

80J2 MF/HF Transceiver Power levels should be set:

- A. To the highest possible level to ensure effective communications.
- B. To the lowest possible level at all times regardless of whether communications are effective.
- C. To the lowest level needed to achieve the necessary propagation radius and communications range.
- D. To the highest level possible so as to ensure other stations cannot "break-in" on the channel during use.

80J3 Which statement regarding GMDSS MF/HF Transceiver frequency set-up is true:

- A. Manual keypad entries are quicker and more certain than using the database.
- B. All consoles ensure that manual keypad entries are checked for legal outcomes.
- C. All consoles ensure that ITU channel recall from a database produces accurate and legal outcomes.
- D. Using the manufacturer's database typically produces a more swift and certain result.

80J4 Which statement regarding GMDSS MF/HF Transceiver frequency set-up is true:

- A. Some consoles allow both manual keypad entry and ITU channel recall from a database or memory.
- B. Transmit and receive frequencies must always be manually entered from the keypad.
- C. Transmit and receive frequencies must always be recalled from a database or memory.
- D. Frequencies in the manufacturer's databases are always accurate and legal for use.

80J5 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 (NBDP) operations.
- B. Select F1B/J2B modes or J3E mode, depending on whether ARQ or FEC is preferred.
- C. Select J3E mode for ARQ and H3E mode for FEC.
- D. Select F1B mode or J2B mode, depending on the equipment manufacturer.

80J6 To set-up the MF/HF Transceiver for a voice call to a coast station, the operator must:

- A. Select J3E mode for proper voice operations.
- B. Select J3E mode for proper SITOR (NBDP) operations.
- C. Select F1B mode or J2B mode, depending on the equipment manufacturer.
- D. Select F1B/J2B modes or J3E mode, depending on whether FEC or ARQ is preferred.

Answers:      80J1 - B      80J2 - C      80J3 - D      80J4 - A      80J5 - D      80J6 - A



**Section-J: MF-HF Equip. and Comms: Key Topic #81: MF-HF Frequency–Simplex, Duplex, Half-Duplex:**

81J1 How are paired SITOR (NBDP) frequencies normally used?

- A. These are normally used for ARQ communications with coast radio stations.
- B. These are normally used for FEC 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.

81J2 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 J3E communications with coast radio stations.
- C. These are normally used for ARQ communications with coast radio stations.
- D. These are normally used for DSC communications with coast radio stations.

81J3 For general communications purposes, paired frequencies are:

- A. Normally used with private coast stations.
- B. Normally used between ship stations.
- C. Normally used with public coast stations.
- D. Normally used between private coast and ship stations.

81J4 For general communications purposes, simplex frequencies are:

- A. Normally used with public coast stations for routine telephone communications.
- B. Normally used between ship stations as well as public coast stations simultaneously.
- C. Normally used with public coast stations for routine SITOR (NBDP) communications.
- D. Normally used between ship stations and private coast stations or for ship-ship communications.

81J5 An ITU simplex channel frequency assignment is defined as:

- A. Transmit and receive frequencies must be identical.
- B. Transmit and receive frequencies must be different.
- 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.

81J6 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 different.
- C. Transmit and receive frequencies must be identical.
- D. Transmit and receive frequencies may be different if communications are ship-ship.

Answers:      81J1 - A      81J2 - B      81J3 - C      81J4 - D      81J5 - A      81J6 - B

**Section-J: MF-HF Equip. and Comms: Key Topic #82: MF-HF ITU Channels:**

82J1 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-12 in the 16 kHz band.
- D. Ch-16 in the 12 MHz band.

82J2 Which of the following is a valid 22-MHz ITU Channel?

- A. HF Ch-2206
- B. VHF Ch-22
- C. Ch-22A VTS
- D. Ch-70 (DSC only)

82J3 What is meant by the term duplex "ITU channel"?

- A. This refers to a vessel's SELCAL number.
- B. A standardized series of frequency pairings for common use.
- C. This refers to VHF channels 1-28 and 60-88.
- D. A series of frequency pairings used for ship-ship communications.

82J4 ITU duplex channel 1604 would mean:

- A. Ch-16 in the 4 MHz band.
- B. Ch-1604 in the MF band.
- C. Ch-4 in the 16 MHz band.
- D. Ch-4 in the 6 MHz band.

82J5 What is a potential danger of using the manufacturer's database to set up for operations using MF-HF ITU frequency assignments?

- A. All manufacturer's frequency databases are required to be standardized & accurate so that there is no danger.
- B. Using the manufacturer's frequency database to setup the transceiver typically takes longer and is more prone to error than a manual setup.
- C. Different manufacturers use different database numbering systems to incorporate the ITU assignments into the transceiver and therefore a potential for confusion exists.
- D. Using the manufacturer's frequency databases ensures that the transceiver is always restricted to the vessel's licensed frequencies so that there is no danger.

82J6 ITU Duplex 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.

Answers:      82J1 - D      82J2 - A      82J3 - B      82J4 - C      82J5 - C      82J6 - D

**Section-J: MF-HF Equip. and Comms: Key Topic #83: MF-HF Voice and Telex Channel Separation:**

83J1 Which statement regarding bandwidth and channel spacing is correct:

- A. Bandwidth values are a function of channel spacing values.
- B. Channel spacing values are not a function of bandwidth values.
- C. Channel spacing values are a function of bandwidth values.
- D. Bandwidth & channel values do not vary with emission mode.

83J2 The purpose of ITU channel spacing is:

- A. To minimize the number of voice & TELEX channels available.
- B. To make most efficient use of the radio spectrum, by using voice channels rather than TELEX channels.
- C. To make most efficient use of the radio spectrum, by using TELEX channels rather than voice channels.
- D. To minimize the possibility of interference from adjacent channels.

83J3 Which statement regarding channel spacing and bandwidth is true?

- A. Both TELEX bandwidth and channel spacing values are less than voice bandwidth and channel spacing values.
- B. Voice bandwidth is greater than TELEX bandwidth and therefore voice channel spacing values are less than TELEX channel spacing values.
- C. TELEX bandwidth is greater than voice bandwidth and therefore TELEX channel spacing values are less than voice channel spacing values.
- D. Both TELEX bandwidth and channel spacing values are greater than voice bandwidth and channel spacing values.

83J4 The proper sequence of channel spacing from narrow to widest is:

- A. SSB voice, SITOR (NBDP), VHF-FM voice.
- B. SITOR (NBDP), SSB-voice, VHF-FM voice.
- C. VHF-FM voice, SITOR (NBDP), SSB-voice.
- D. SITOR (NBDP), VHF-FM voice, SSB-voice.

83J5 Communications with an emission of F1B/J2B would typically have a channel spacing of:

- A. 0.3 kHz
- B. 0.5 kHz
- C. 2.8 kHz
- D. 3.0 kHz

83J6 Communications with an emission of J3E would typically have a channel spacing of:

- A. 0.5 kHz
- B. 0.3 kHz
- C. 3.0 kHz
- D. 2.8 kHz

Answers:      83J1 - C      83J2 - D      83J3 - A      83J4 - B      83J5 - B      83J6 - C

**Section-J: MF-HF Equip. and Comms: Key Topic #84: MF-HF Modulation, Bandwidth and Emissions:**

84J1 For RF communications, "modulation" is best defined as:

- A. Using a single carrier frequency with the proper power level.
- B. The combination of information or intelligence on to a radio carrier frequency.
- 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.

84J2 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.

84J3 In an AM broadcast signal using voice:

- A. Varying the amplitude of the carrier and employing both sidebands without the carrier.
- B. Varying only the amplitude of the carrier, depending on Double or Single-Sideband operations.
- C. Varying the amplitude of the carrier and employing both sidebands and the carrier.
- D. There is a carrier with constant amplitude and frequency with complex upper and lower sidebands varying in amplitude and frequency.

84J4 In FM communications, the information is applied to the carrier by:

- A. Varying the frequency of the carrier to convey the information to other stations.
- B. Varying the amplitude or the frequency of the carrier, depending on Double or Single-Sideband operations.
- C. Varying only the frequency of the carrier, depending on Double or Single-Sideband operations.
- D. Varying the amplitude of the carrier and keeping the frequencies in the sidebands constant.

84J5 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. J3E, H3E, A3E, F3E.
- C. H3E, A3E, J3E, F3E.
- D. A3E, J3E, H3E, F3E.

84J6 The proper sequence of emissions corresponding to the sequence SSB-Voice without carrier, USB-Voice with carrier, FM-Voice and SITOR (NBDP) TELEX is:

- A. J3E, H3E, F3E, F1B.
- B. H3E, J3E, F3E, F1B.
- C. J3E, H3E, F1B, F3E.
- D. H3E, J3E, F1B, F3E.

Answers:      84J1 - B      84J2 - C      84J3 - D      84J4 - A      84J5 - D      84J6 - A

**Section-J: MF-HF Equip. and Comms: Key Topic #85: MF-HF Voice Operations–Calling a Coast Station:**

85J1 When placing a SSB MF/HF call to a Coast Station, you should always:

- A. Make sure the frequency is not occupied.
- B. Choose the closest station to ensure a quick connection.
- C. Tune the transmitter on another frequency.
- D. Wait until the coast station sends his traffic list.

85J2 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 SITOR (NBDP) calling channel with the strongest marker signal.
- B. 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.
- C. The vessel calls the public correspondence station on VHF Channel 16, and the two stations then switch to the working channel.
- D. Public Correspondence Stations operate SITOR (NBDP) only.

85J3 What is the best procedure for calling another ship station using HF radiotelephone when the signals are weak but readable?

- A. 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."
- B. Instruct the nearest public correspondence station to add the desired ship's call sign to the station's traffic list.
- C. On a properly selected ITU channel, give the call sign of the ship being called three times using phonetics, then "this is" followed by the call sign of the ship initiating the call three times, using phonetics, and ending with "over."
- 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.

85J4 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. Request the VTS operator place the call on channel 22A.
- D. On a correct ITU channel, give the call sign of the coast radio station three times using phonetics, the words "this is", followed by the ship's call sign three times using phonetics and ending with "over".

85J5 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.

85J6 What is the best source of information to find changes or additions to the routine communications frequencies of a Commercial Radio Station?

- A. GMDSS Master Plan of Shore-Based Facilities.
- B. ITU List of Coast Stations and Special Service Stations. (List IV)
- C. FCC Part 80, Subpart W Coast Radio Stations.
- D. ITU List of Ship Stations and Maritime Mobile Service Identities. (List V)

Answers:      85J1 - A      85J2 - B      85J3 - C      85J4 - D      85J5 - A      85J6 - B

**Section-J: MF-HF Equip. and Comms: Key Topic #86: MF-HF DSC Controller Call Programming:**

86J1 Which of these is not a primary purpose of the MF/HF DSC controller?

- A. It provides for the electronic memory of incoming and outgoing DSC calls.
- B. It permits control of transceiver operations in response to an incoming DSC call.
- C. It provides for the formatting and transmission of outgoing DSC calls.
- D. It provides the scanning watch receiver capability on the 6 MF/HF DSC frequencies.

86J2 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 first to alert the nearest vessels and coast stations.
- D. Will always be sent first on 16804.5 kHz to reach coast stations far away from the vessel.

86J3 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.

86J4 Which of these statements regarding a multi-frequency MF/HF DSC Distress alert is false?

- A. Some units transmit on the mandatory MF/HF DSC watch frequencies first, and then on the others.
- B. Some units transmit in ascending order of propagation radius to alert nearby ships or shore stations first.
- C. May be transmitted in any order programmed by the GMDSS operator.
- D. Multi-frequency alerts work quite differently, depending on the manufacturer and require care and understanding of the feature.

86J5 To make a call to another vessel requesting voice communications regarding important company business, the GMDSS operator should:

- A. Select Routine priority, enter other vessel's MMSI, specify legal alternate frequency, J2B emission and transmit the properly formatted DSC call.
- B. Select Routine priority, enter own vessel's MMSI, specify legal alternate frequency, J3E emission and transmit the properly formatted DSC call.
- C. None of these answers is correct.
- D. Select Urgency priority, enter other vessel's MMSI, specify legal alternate frequency, F1B emission and transmit the properly formatted DSC call.

86J6 To make a call to another vessel requesting TELEX 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 own vessel's MMSI, specify legal alternate frequency, F1B emission and transmit the properly formatted DSC call.
- C. Select Routine priority, enter other vessel's SELCAL for TELEX specify legal alternate frequency, F1B emission and transmit the properly formatted DSC call.
- D. Select Routine priority, enter other vessel's MMSI, specify legal alternate frequency, F1B emission and transmit the properly formatted DSC call.

Answers:      86J1 - D      86J2 - A      86J3 - B      86J4 - C      86J5 - C      86J6 - D

**Section-J: MF-HF Equip. and Comms: Key Topic #87: MF-HF SITOR (NBDP) - Definitions:**

87J1 What is meant by describing a Coast Station with the acronym ATOR?

- A. The station's BFEC operations are computerized and a rigid operating sequence must be followed correctly.
- B. The station will control all of the ARQ operations and it will generate the proper service request codes at the correct time in the sequence.
- C. The station's ARQ operations are computerized and a rigid operating sequence must be followed correctly.
- D. The station will control all of the ARQ operations and it will provide prompts for the operator to request time & charges at the correct time in the sequence.

87J2 Which of the following acronyms refers to a communications system that does not use ARQ and/or FEC modes?

- A. NAVTEX
- B. SITOR (NBDP)
- C. HF MSI
- D. SART

87J3 What does the term FEC mean in SITOR (NBDP) communications?

- A. Forward Error Correction
- B. Field Effect Correction
- C. Forward Error Check
- D. Forward Error Character

87J4 A Coast Station that is described as ATOR typically provides what type of services?

- A. NAVTEX BFEC weather broadcasts.
- B. ARQ SITOR (NBDP) connections to shoreside terminals.
- C. BFEC SITOR (NBDP) connections to shoreside terminals.
- D. SITOR (NBDP) HF weather broadcasts.

87J5 The acronym SITOR (NBDP) stands for:

- A. Simplified Telephony Over Radio
- B. Simplex TELEX Over Radio
- C. Simplified TELEX Over Radio
- D. Simplex Telephony Over Radio

87J6 What does the term "ARQ" mean in SITOR (NBDP) operations?

- A. Automation Repeat Request
- B. Automaton Repeat Request
- C. Automatic Repeat Request
- D. Automatic Request Repeat

Answers:      87J1 - C      87J2 - D      87J3 - A      87J4 - B      87J5 - B      87J6 - C

**Section-J: MF-HF Equip. and Comms: Key Topic #88: MF-HF SITOR (NBDP) Technical Characteristics:**

88J1 Which of the following statements concerning SITOR (NBDP) communications is true?

- A. ARQ transmissions are acknowledged by the Information Receiving Station only at the end of the message.
- B. ARQ transmissions are made in data groups consisting of three-character blocks.
- C. ARQ communications rely upon error correction by time diversity transmission and reception.
- D. Forward error correction is an interactive mode.

88J2 Which of the following statements concerning SITOR (NBDP) 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.

88J3 Which statement best defines the SITOR (NBDP) acronym "ARQ"?

- A. Error Correction when 2 stations are in direct & phased telephone communications with each other.
- B. Error correction for one-way TELEX transmissions to a single other station.
- C. Error correction for one-way TELEX broadcasts of weather or navigation information.
- D. Error Correction with 2 stations are in direct & phased TELEX communications with each other.

88J4 Which statement best defines the SITOR (NBDP) acronym "BFEC"?

- 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. Error correction when 1 station sends a one-way TELEX to a single other station.

88J5 The purpose of "parity" in SITOR (NBDP) communications is?

- A. Error correction in HF BFEC MSI broadcasts, SFEC NAVTEX broadcasts and two way ARQ exchanges.
- B. Error correction in SFEC NAVTEX broadcasts, HF SFEC MSI broadcasts and two-way ARQ exchanges.
- C. Error correction in BFEC NAVTEX broadcasts, HF BFEC MSI broadcasts and one-way ARQ broadcasts.
- D. Error correction in HF BFEC MSI broadcasts, NAVTEX broadcasts and two-way ARQ exchanges.

88J6 "SITOR (NBDP)" communications are based on a digital code system:

- A. Consisting of 7 bits, with four zeros and three ones.
- B. Consisting of 7 bits, with four ones and three zeroes.
- C. Consisting of 5 bits TELEX and 8 bits Fax.
- D. Consisting of 5 bits for ship stations and 7 bits for shore stations.

Answers:      88J1 - B      88J2 - C      88J3 - D      88J4 - A      88J5 - D      88J6 - A



**Section-J: MF-HF Equip. and Comms: Key Topic #89: MF-HF ARQ Operation – Calling a Coast Station:**

89J1 Which of the following would be a valid SELCAL 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.

89J2 Once ARQ communication with the coast radio station has been established, which of the following events will most likely take place?

- A. The vessel then requests the coast radio station's SELCAL so that communication can be set up on the appropriate working channel.
- B. After exchanging answer-backs (WRU-AAB) with the vessel, the coast radio station transmits GA+?.
- C. 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.
- D. The coast radio station will transmit a menu of commands such as DIRT LX+, OBS+ or AMV+ so the ship can select the desired action.

89J3 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 antenna toward the coast radio station and press the "call request" button.

89J4 When placing a TELEX call to a Coast Station, you should always:

- A. Choose the closest station.
- B. Tune the transmitter on another frequency.
- C. Wait until the coast station sends his traffic list.
- D. Make sure the frequency is not occupied with normal traffic.

89J5 What is the best method for a GMDSS Radio Operator to determine which SITOR (NBDP) station to contact for the purpose of sending a chargeable message or cable?

- A. Listen to each station's "free signals" and call the strongest station.
- B. Listen to each station's voice announcement and determine which channel(s) will be monitored.
- 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.

89J6 Which statement is correct regarding HF SITOR (NBDP) under GMDSS?

- A. 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.
- B. 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.
- 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.

Answers:      89J1 - A      89J2 - B      89J3 - C      89J4 - D      89J5 - A      89J6 - B

**Section-J: MF-HF Equip. and Comms: Key Topic #90: MF-HF ARQ Operation - Answerbacks:**

90J1 Which of the following events will take place immediately after phasing with a Coast Station on an available channel?

- A. The ship station begins transmitting the text to the destination telex terminal.
- B. The vessel will request the shore station's answerback to confirm it has reached the correct station.
- C. The ship will transmit the desired command (such as DIRTLX+, OBS+ or AMV+) to the coast radio station.
- D. After exchanging answer-backs (WRU/AAB) the coast station transmits GA+? and awaits a command.

90J2 During SITOP (NBDP) ARQ operations through a coast station, what should the GMDSS operator do during the "Automatic Exchange of Answerbacks"?

- A. Do nothing other than wait for a GA+? prompt and then issue the desired command.
- B. Send a "WRU" then a "Here is" when requested to do so by the coast station.
- C. Send the necessary message file and then wait for time and charges.
- D. Wait for the coast station to transmit a menu of possible commands and select the desired action.

90J3 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.

90J4 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, SELCAL 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, SELCAL 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+? and then send message text.

90J5 During ARQ communications, which of these is least likely to cause a coast station to immediately break the phased radio connection:

- A. If the automatic exchange of answerbacks is interrupted by keyboard entries.
- B. If the error percentage of repeat requests becomes too high.
- C. If the operator enters "KKKK" at the end of the message.
- D. If the BRK+? Command is transmitted after time and charges are received.

90J6 During ARQ communications, which of these is least likely to cause a coast station to break the phased radio connection:

- A. If the error percentage of repeat requests becomes too high.
- B. If the operator enters "BRK+".
- C. If the automatic exchange of answerbacks is interrupted by keyboard entries.
- D. If the operator enters "NNNN" at the end of the message.

Answers:      90J1 - D      90J2 - A      90J3 - B      90J4 - C      90J5 - C      90J6 - D

**Section-J: MF-HF Equip. and Comms: Key Topic #91: MF-HF ARQ Operation – OP Codes & Procedures:**

91J1 What sequence of ARQ codes matches the following: manual over, end of message text, end of connection to land destination terminal?

- A. NNNN, KKKK, GA+
- B. KKKK, DIRT LX, NNNN
- C. +?, NNNN, KKKK
- D. +?, . . . ., BRK+

91J2 What sequence of ARQ codes matches the following: request establishment of a landline, end radio link after traffic is done, request connection for AMVER messages?

- A. NNNN, KKKK, AMV+
- B. KKKK, BRK+, AMV+
- C. BRK+, DIRT LX+, AMV+
- D. DIRT LX, BRK+, AMV+

91J3 What sequence of ARQ codes matches the following: Send synoptic weather, switch control from a station currently transmitting over to the receiving station, terminate phasing with coast station.

- A. OBS+, +?, BRK+
- B. OBS+, WRU then Here is, BRK+
- C. OBS+, GA+?, KKKK
- D. AMV+, +?, KKKK

91J4 A manual ship-ship ARQ message would typically begin with what sequence of ARQ procedures?

- A. Initiate call with CS selcal, observe exchange of answer-backs (WRU-AAB), send message.
- B. Initiate call with ship selcal, enter "HERE IS" then "WRU" commands and send message.
- C. After phasing with the other vessel, observe exchange of answer-backs (WRU-AAB), send message and then KKKK to end the transmission.
- D. After phasing with the other vessel then send GA+? to determine if they are ready to receive your message.

91J5 What sequence of ARQ codes matches the following: shore station indicates it is awaiting instructions from the vessel, vessel requests a live connection to a land telex number, vessel indicates it is done with the coast station?

- A. WRU-AAB, DIRT LX, NNNN
- B. GA+?, DIRT LX, BRK+
- C. GA+?, DIRT LX, KKKK
- D. WRU-AAB, DIRT LX, .....

91J6 All country codes which are transmitted by MF/HF SITOR (NBDP) are preceded by which character(s)?

- A. 00
- B. +
- C. 0
- D. DIR

Answers:      91J1 - C      91J2 - D      91J3 - A      91J4 - B      91J5 - B      91J6 - C

**Section-J: MF-HF Equip. and Comms: Key Topic #92: MF-HF ARQ Operation–Technical Characteristics:**

92J1 Which of the following statements concerning SITOR (NBDP) communications is true?

- A. In ARQ, each character is transmitted twice, about 250 milliseconds apart.
- B. In ARQ, the "information sending station" will transmit a block of three characters that the receiving station will subsequently acknowledge or request be retransmitted.
- C. In ARQ, the "information sending station" transmits a block of three characters twice, about 250 milliseconds apart.
- D. SITOR (NBDP) communications can be used to contact a NAVTEX transmitting station when requesting a repeat transmission of a missed NAVTEX message.

92J2 What statement is true regarding the exchange between two parties engaged in SITOR (NBDP) 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.

92J3 Of the following, which is true of SITOR (NBDP) ARQ mode?

- A. The acceptance code consists of three characters.
- B. A continuous data stream is transmitted.
- C. Forward error correction reduces the number of errors.
- D. Each data block consists of three characters.

92J4 Which of the following is true of SITOR (NBDP) 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.

92J5 In ARQ, when the information sending station (ISS) receives a signal that the parity check failed what happens?

- A. The next block will be sent.
- B. The data link will break.
- C. The acknowledge light should illuminate.
- D. The last block will be resent.

92J6 Which of the following is true of SITOR (NBDP) ARQ mode:

- A. 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.
- B. The ship station sends a group of 3 characters twice and then waits for an "RQ" signal to indicate proper receipt before continuing transmission.
- C. The Ship station sends each character twice, using a time diversity system to ensure proper parity.
- D. 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.

Answers:      92J1 - B      92J2 - C      92J3 - D      92J4 - A      92J5 - D      92J6 - A

**Section-J: MF-HF Equip. and Comms: Key Topic #93: MF-HF Addressing Modes:**

93J1 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. DIRTLX023123456+
- B. MSG+
- C. GA+?
- D. ENTER

93J2 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 following the automatic exchange of answerbacks.
- C. After receipt of the Go Ahead indication followed by the automatic exchange of answerbacks.
- D. Sent at the beginning of the message to request a direct TELEX connection.

93J3 Which automatic TELEX command should be sent by a ship station during SITOP (NBDP) operations to properly address a weather report to the national weather authority?

- A. WX+ followed by the text of the report.
- B. OBS+ then MSG+ to indicate weather report.
- C. OBS+ and then send the weather report.
- D. GA+? then OBS+ and then send the weather report.

93J4 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. DIRTLX then waits for MSG+ to dial 023419645+.
- B. DIRTLX23122445+.
- C. DIRTLX followed by GA+? and the TELEX number.
- D. DIRTLX023424998+.

93J5 When requesting a direct TELEX connection to a vessel's Inmarsat-B terminal, (i.e. making a SITOP (NBDP) call to an Inmarsat-B unit) the GMDSS operator must:

- A. DIRTLX, 0, Ocean Area Code, TELEX number, +.
- B. DIRTLX, 00, Ocean Area Code, TELEX number, +.
- C. DIRTLX, 0, Country code, TELEX number, +.
- D. DIRTLX, 00, Country code, TELEX number.

93J6 To correctly address a SITOP (NBDP) message and transmit it "live" to a shore-based office the GMDSS operator would dial which sequence:

- A. DIRTLX0051440344+
- B. DIRTLX051440344+
- C. DIRTLX581440344+
- D. DIRTLX05811500260+

Answers:      93J1 - A      93J2 - B      93J3 - C      93J4 - D      93J5 - A      93J6 - B

**Section-J: MF-HF Equip. and Comms: Key Topic #94: MF-HF FEC Operation-1:**

94J1 Which of the following statements concerning SITOR (NBDP) communications is true?

- A. Communication is established on the working channel and answerbacks are exchanged before FEC broadcasts can be received.
- B. All of these answers are true.
- C. Weather broadcasts cannot be made in FEC because sending each character twice would cause the broadcast to be prohibitively long.
- D. Two-way communication with the coast radio station using FEC is not necessary to be able to receive the broadcasts.

94J2 Which of the following is true of SITOR (NBDP) Mode B (FEC), in the presence of static crashes.

- A. FEC reduces the error rate by transmitting each character twice.
- B. Data flow rate depends on signal propagation.
- C. Idle characters are sent upon request.
- D. Transmitter and receiver cannot synchronize.

94J3 Which of the following statements concerning SITOR (NBDP) 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 passively received without the transmitter being active.
- C. Weather broadcasts are always made in ARQ mode to ensure reception.
- D. ARQ mode communications can be passively received without the transmitter being active.

94J4 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.

94J5 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. One-way communications to all stations, one-way communications to a single station, two way communications.
- D. Two way communications, one-way communications to all stations, two-way communications.

94J6 Selective FEC communications (SFEC) are employed when:

- A. Multiple stations without a group SELCAL 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 by using their transmitter to achieve phasing and block other stations from breaking in.
- D. An individual station must receive communications without using any transmitters (Radio Silence).

Answers:      94J1 - D      94J2 - A      94J3 - B      94J4 - C      94J5 - C      94J6 - D

**Section-J: MF-HF Equip. and Comms: Key Topic #95: MF-HF FEC Operation-2:**

95J1 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 518 kHz FEC TELEX on the MF/HF console to receive MSI.
- D. Select an HF MSI frequency and ARQ TELEX mode to receive MSI.

95J2 If the vessel is beyond range of NAVTEX broadcasts and the Inmarsat-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 518 kHz FEC TELEX on the MF/HF console to receive MSI.
- D. Select an HF MSI frequency and FEC TELEX mode to receive MSI.

95J3 If the vessel is experiencing atmospheric interference with NAVTEX broadcasts, especially in the tropics, the GMDSS operator should:

- A. Select one of the 8 HF MSI frequencies and set-up the transceiver in FEC TELEX mode.
- B. Select one of the 6 HF MSI frequencies and set-up the transceiver in ARQ TELEX mode.
- C. Select one of the 6 MF 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.

95J4 Why must the GMDSS operator be able to set-up FEC & ARQ modes and differentiate between them?

- A. The proper mode of SFEC must be selected for reception of HF MSI and ARQ selected for initial follow-on TELEX communications in a Distress situation
- B. The proper mode must be selected for follow-on TELEX communications in a Distress situation and for the reception of HF MSI.
- C. The ARQ TELEX mode must be selected for follow-on TELEX communications in a Distress situation and the BFEC TELEX mode selected for reception of HF MSI.
- D. The BFEC TELEX mode must be selected for follow-on TELEX communications in a Distress situation and the ARQ TELEX mode selected for reception of HF MSI.

95J5 BFEC SITOR (NBDP) transmissions might be used to?

- A. Receive Coast station traffic lists, NAVTEX and VHF MSI broadcasts.
- B. Send and receive Distress TELEX communications and receive HF MSI or NAVTEX.
- C. Receive weather messages or download ARQ Coast Station traffic lists.
- D. Receive weather messages and send vessel weather OBS messages.

95J6 FEC SITOR (NBDP) transmissions are normally used to?

- A. Receive Coast station traffic lists, NAVTEX and VHF MSI broadcasts.
- B. Receive weather messages, Coast Station traffic lists and company messages.
- C. Receive HF MSI and NAVTEX.
- D. Receive company communications sent through coast stations.

Answers:      95J1 - C      95J2 - D      95J3 - A      95J4 - B      95J5 - B      95J6 - C

**Section-J: MF-HF Equip. and Comms: Key Topic #96: MF-HF Propagation-1; Day-Night-Winter-Summer:**

96J1 The "short rules" of propagation necessary to select the appropriate frequency band are:

- A. Shorter distance = Higher Frequency, Daytime = Higher Frequency.
- B. Shorter distance = Lower Frequency, Daytime = Higher Frequency.
- C. Shorter distance = Higher Frequency, Daytime = Lower Frequency.
- D. Shorter distance = Lower Frequency, Daytime = Lower Frequency.

96J2 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.

96J3 What would be the most appropriate HF bands for communicating from San Francisco to Taiwan or the Philippines?

- A. 12 MHz during daylight at each end and 2 MHz when dark at each end.
- B. 8 MHz during daylight hours and 16 MHz during darkness.
- C. 6 MHz during daylight hours and 8 MHz during darkness.
- D. 16 or 22 MHz when daylight at each end and 8 MHz when dark at each end.

96J4 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.

96J5 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" should be combined with Solar flare alerts to determine band selection.
- D. Propagation "rules of thumb" are usually sufficient for routine operations.

96J6 To ensure effective HF communications, GMDSS operators should:

- A. Employ the short rules of propagation selection or rely on previous successful communications as a guide.
- B. Disregard the short rules of propagation selection and try different bands until one works.
- C. Do not rely on previous successful communications on the selected frequency band – the ionosphere changes too rapidly and inconsistently.
- D. Rely on the equipment calculations of Optimum Usable Frequency.

Answers:      96J1 - B      96J2 - C      96J3 - D      96J4 - A      96J5 - D      96J6 - A



**Section-J: MF-HF Equip. and Comms: Key Topic #97: MF-HF Propagation-2; Day-Night-Winter-Summer:**

97J1 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 gradually deteriorate and become impossible on this frequency at night.
- B. Communications should be maintained with slight improvement in the signal received from the shore station.
- C. The gray line effect will prevent communications after dark.
- D. Communications should improve and peak at night.

97J2 A ship at anchor has been communicating with a shore station approximately 200 miles distant on a frequency in the 4 MHz band through mid-morning. 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 gradually improve and peak at night and early morning.
- C. Communications should slowly deteriorate but may be continued throughout the night.
- D. Communications should gradually deteriorate and become impossible on this frequency by night.

97J3 At mid-day in the summer, what would be the best choice in attempting to communicate, using SITOR (NBDP) with a shore station some 1800 miles distant?

- A. VHF-FM
- B. Lower HF bands
- C. Higher HF bands
- D. MF

97J4 At mid-night, what would be the best choice in attempting to communicate, using SITOR (NBDP) with a shore station some 800 miles distant?

- A. VHF-FM
- B. Higher UHF bands
- C. Communications are impossible at this distance.
- D. HF bands

97J5 At mid-day, what would be the best choice in attempting to communicate with a shore station some 75 miles distant?

- A. MF
- B. VHF-FM
- C. 22 MHz band
- D. 16 MHz band

97J6 How can a GMDSS operator determine the best frequency band to choose for a SITOR (NBDP) transmission to a shore station?

- A. By consulting propagation tables.
- B. Listen to shore station "free signals" and choose the band with the strongest signal.
- C. If static interference is present, try lower bands first.
- D. During nighttime, choose higher frequencies. Choose lower frequencies in the daytime.

Answers:      97J1 - A      97J2 - B      97J3 - C      97J4 - D      97J5 - A      97J6 - B

**Section-J: MF-HF Equip. and Comms: Key Topic #98: MF-HF DSC Controller Alert/Call Response:**

98J1 The Distress Alarm sounds and the screen readout no longer contains the particulars of the Distress:

- A. The particulars are rarely routed to the printer so it is of no use to examine the printer.
- B. Examine the Transmitted Data Directory or the printer to recover the information.
- C. Call the Distress vessel on the DSC frequency and request a retransmission.
- D. Examine the Received Data Directory or the printer to recover the information.

98J2 A DSC Distress call is received by your vessel and your transceiver frequency display reads:  
Transmit = 4207.5 kHz and Receive = 4207.5 kHz with J3E emission -- what information can you infer from this?

- A. The DSC call requested voice on 4207.5 kHz simplex but the requested alternate frequency is improper.
- B. The DSC controller decoded the requested voice frequency as 4207.5 kHz simplex and your DSC controller has automatically set-up your transceiver and therefore the requested alternate frequency is correct.
- C. The DSC call came in on 4 MHz DSC. You should set-up your transmitter and respond on the appropriate voice follow-on frequency of 4177.5 kHz.
- 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 of 4207.5 kHz.

98J3 What are potential dangers of automatic transceiver switching in response to a DSC call?

- A. Incorrectly formatted DSC calls from other vessels result in a warning in the DSC alarm screen but the vessel still might be switched to an illegal or improper outcome.
- B. The transceiver may be switched out of the marine bands or the frequency may not match the requested priority or emission.
- C. The automatic transceiver switching software always detects improper priorities, emissions & frequencies to ensure there is no danger.
- D. The automatic transceiver switching feature always interrupting safe navigation of your own vessel and placing the unit on the GMDSS Distress, Urgency or Safety follow-on frequencies.

98J4 Which of these would not be a bad outcome of an Urgency DSC call to all vessels specifying an alternate TELEX frequency & emission that cause your transceiver to automatically switch?

- A. The DSC controller decoded the contents of the DSC call and the requested frequency is not on the DUS table/placard but is in the marine band frequencies in the J2B emission.
- B. The DSC controller decoded the contents of the DSC call and the requested frequency is on the DUS table/placard in the J3E emission.
- C. The DSC controller decoded the contents of the DSC call and the requested frequency is on the DUS table/placard in the J2B emission.
- D. The DSC controller decoded the contents of the DSC call and the requested frequency is not on the DUS table/placard, is not in the marine band or the other vessel requested a J3E emission.

98J5 An incoming Distress priority 16 MHz DSC call requesting J3E emission might automatically switch to what frequency?

- A. 16420.0 MHz
- B. 16696.5 kHz
- C. 16420.0 kHz
- D. 16804.5 kHz

98J6 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 these answers would typically occur.

Answers:      98J1 - D      98J2 - A      98J3 - B      98J4 - C      98J5 - C      98J6 - D

**Section-J: MF-HF Equip. and Comms: Key Topic #99: Batteries:**

99J1 What is the normal voltage of a single lead acid battery cell?

- A. 1.5 volts
- B. 2.5 volts
- C. 2.1 volts
- D. 1.2 volts

99J2 What is the normal specific gravity of a fully charged lead acid battery cell? What device is used to measuring the electrolyte of a lead acid battery?

- A. 1.375 Voltmeter
- B. 1.180 Voltmeter
- C. 1.210 Hydrometer
- D. 1.280 Hydrometer

99J3 What is a gel cell battery and how is it maintained & cared for?

- A. Gel cell batteries are typically sealed; special charging rates and voltages may be required.
- B. Gel cell batteries are lead acid with a solid electrolyte; each cell is checked with a voltmeter.
- C. Gel cell batteries are NICAD with a solid electrolyte; each cell is checked with a voltmeter.
- D. Gel cell batteries are have special liquid electrolytes; they are charged with the NICAD charging rates and voltages.

99J4 What will cause an individual battery cell to reverse polarity.

- A. High discharge rates without allowing for a cool down period.
- B. 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.
- C. Insufficient charging which does not bring all of the cells up to full charge.
- D. The charging circuits are connected in the correct polarity but all of the cells are equally charged.

99J5 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. Higher temperature results in a lower specific gravity reading.
- C. Temperature has no effect on the specific gravity reading.
- D. Lower temperature results in a lower specific gravity reading.

99J6 What would be an indication of a malfunction on a GMDSS station with a 24 VDC battery system?

- A. All of these symptoms would indicate a potential battery charger malfunction.
- B. After testing the station on battery power, a voltmeter reading of 30 volts for a brief period followed by a steady 26 volt reading.
- C. A constant 30 volt reading on the GMDSS console voltmeter.
- D. After testing the station on battery power, the ammeter reading indicates a high rate of charge that then declines.

Answers:      99J1 - C      99J2 - D      99J3 - A      99J4 - B      99J5 - B      99J6 - C

**Section-J: MF-HF Equip. and Comms: Key Topic #100: MF-HF Equipment Faults and Testing:**

100J1 Which of the following conditions would be a symptom of malfunction in a 2182 kHz radiotelephone system which must be reported to the Master?

- A. Much lower 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.

100J2 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. Dramatic increase in noise level observed during night and early morning hours.
- C. Failure to contact another station 60 miles distant during daytime operation.
- D. The visual indication of power to the antenna fluctuates while testing the radiotelephone alarm signal generator into an artificial antenna.

100J3 Which would indicate proper operation of a SSB transmitter rated at 60 Watt PEP output in J3E mode?

- A. In SITOR (NBDP) communications, the power meter can be seen fluctuating regularly from zero to the 60 watt relative output reading.
- B. In SSB (J3E) mode, speaking into the microphone causes the power meter to fluctuate well above the 60 watt reading.
- C. A steady indication of transmitted energy on an RF power meter with no fluctuations when speaking into the microphone.
- D. In SSB (J3E) voice mode, with the transmitter keyed but without speaking into the microphone, no power output is indicated.

100J4 Which would be an indication of proper operation of a SSB transmitter rated at 60 watt PEP output?

- A. In SITOR (NBDP) 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.

100J5 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.

100J6 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 approximately 35-40 ft long per the equipment instruction manual.
- B. Rig a wire antenna 10-15 ft long from the antenna tuner to the highest vertical support.
- C. Rig a horizontal, center-fed dipole antenna 40 ft long.
- D. Rig a long wire antenna at least 200 ft long.

Answers:      100J1 - B      100J2 - C      100J3 - D      100J4 - A      100J5 - D      100J6 - A