GMDSS FCC Element 7 Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

Questions

1. What system is appropriate for local storm warnings where it is inappropriate to alert all ships in the satellite coverage area?

A. EGC

B. NAVTEX

C. AMVER

D. DSC

2. What is the correct Radiotelephone Urgency signal?

A. Mayday

B. Securite

C. Pan Pan

D. Seelonce Feenee

3. 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.

4. What is the primary purpose of imposing radio silence?

A. To prevent interference with proprietary communications

B. To allow only voice communications on the distress frequency

C. To provide a routine message window for distressed vessels

D. To mitigate interference during emergency communications

5. What statement best describes demodulation?

A. A. Detuning the receiver to remove interfering signals

B. B. Extracting intelligence from the radio carrier signal

C. C. Removing atmospheric noise from the signal

D. D. Separating the TELEX signals from the voice signals

6. Which situation necessitates the use of Urgency priority?

A. A crewmember falling over the side.

B. A serious medical situation involving a crewmember.

C. An important meteorological warning concerning hazardous weather.

D. A cargo shift or weather situation greater than a Safety priority.

7. What is the emission designation for MF-HF voice signals?

A. F1B

B. J2B

C. F3E

D. J3E

8. Under what condition should a distress alert by a station on behalf of another vessel not occur?

A. When the mobile unit in distress is unable to transmit the alert

B. When the Master on the mobile unit decides against it

C. When further help is deemed necessary by the Coast Station

D. When communications with the Coast station are in progress

9. What determines whether a NAVTEX receiver prints a particular type of message content?

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.

10. What indication do personnel in a survival craft receive from the approach of SAR craft?

A. The Satellite EPIRB changes its strobe light pattern.

B. The SART informs survivors when it switches to standby mode.

C. The SART may provide a visual or audible indication of radar interrogation.

D. The AIS SART alarms to indicate SAR craft are getting close.

Answers

1. A
2. C
3. A
4. D
5. B
6. D
7. D
8. D
9. D
10. C

Explanations

1. What system is appropriate for local storm warnings where it is inappropriate to alert all ships in the satellite coverage area?

A. EGC

B. NAVTEX

C. AMVER

D. DSC

The correct answer relates to the Enhanced Group Call (EGC) system, which is designed specifically for disseminating navigational and safety messages to ships at sea. EGC operates through Inmarsat satellite communications and allows for targeted broadcasts to specific geographic areas, making it ideal for local storm warnings. In scenarios where alerts should not go out to all ships within a satellite's coverage area, EGC lets operators send messages to select vessels or groups of vessels based on their position. This capability is invaluable during localized severe weather events, as it minimizes unnecessary alarm among ships that might not be in immediate danger. The other systems mentioned are focused on different aspects of maritime communication. NAVTEX provides navigational and meteorological information, but it broadcasts to all vessels within a certain range and may not allow for the same level of specificity as EGC. AMVER is a voluntary program for tracking vessels to aid in search and rescue operations, rather than for delivering real-time weather warnings. DSC (Digital Selective Calling) is primarily used for distress communication and does not include dissemination of storm warnings in the localized manner that EGC facilitates.

2. What is the correct Radiotelephone Urgency signal?

A. Mayday

B. Securite

C. Pan Pan

D. Seelonce Feenee

The Radiotelephone Urgency signal is represented by "Pan Pan." This signal is used to indicate a situation that requires urgent attention but is not life-threatening, distinguishing it from "Mayday," which is reserved for situations involving imminent danger to life or vessel. "Pan Pan" is the standard phrasing used to alert fellow mariners about potential issues that may require assistance, allowing them to prepare without the immediate sense of crisis invoked by "Mayday." This signal effectively communicates the urgency of the situation while maintaining clarity about the nature of the problem, making it a crucial component of maritime communication protocols. By using "Pan Pan," the sender can ensure that their message is understood and prioritized appropriately on the radio waves, facilitating more efficient coordination among vessels and maritime services. The other signals mentioned, like "Securite" and "Seelonce Feenee," serve different purposes within maritime communication, with "Securite" indicating important safety messages and "Seelonce Feenee" used to silence communication channels, which highlights the unique role of "Pan Pan" as the urgency signal.

3. 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.

The correct option highlights an important feature of the NAVTEX system, which is designed to provide maritime safety information. By programming the receiver to reject certain stations and message categories, vessels can filter out irrelevant information and focus only on the broadcasts that are pertinent to their specific needs and navigation area. This selective filtering reduces interference from unwanted broadcasts and ensures that the crew receives timely and relevant safety information. This capability enhances the efficiency of information management onboard and allows for better situational awareness while navigating. Properly configuring the receiver minimizes the risk of missing critical broadcasts among the noise of less relevant transmissions. The other choices do not effectively address the issue of unwanted broadcasts in the context of NAVTEX. Operating the receiver during specific hours may not impact the reception of unwanted broadcasts, as signals can still be picked up, potentially leading to unnecessary distractions. Coordinating reception with published broadcast schedules may help in organizing information but does not inherently filter out unwanted stations or message categories. Lastly, automatic receiver de-sensitization during night hours could result in missed important information when it's needed most, rather than preventing unwanted broadcasts.

4. What is the primary purpose of imposing radio silence?

A. To prevent interference with proprietary communications

B. To allow only voice communications on the distress frequency

C. To provide a routine message window for distressed vessels

D. To mitigate interference during emergency communications

Imposing radio silence is primarily intended to mitigate interference during emergency communications. In situations where distress signals are being transmitted, the risk of interference from non-essential communications can lead to confusion or the failure to successfully communicate critical information. By enforcing radio silence, authorities ensure that the distress frequencies are kept clear, allowing for the prompt and effective coordination of rescue efforts. In emergency situations, clarity and reliability are essential for the safety of those in distress. Therefore, minimizing background noise and non-essential transmissions is crucial for the effectiveness of emergency communication efforts. This practice helps to ensure that those who need help can relay their situation effectively and that responding parties can communicate vital information without disruption. The other options, while they may seem relevant, do not directly address the main objective of radio silence in emergency contexts. For example, preventing interference with proprietary communications refers to private messages, which is not the focus during emergencies. Allowing only voice communications on the distress frequency and providing a routine message window for distressed vessels also diverge from the immediate goal of ensuring unimpeded communication when lives are at stake.

5. What statement best describes demodulation?

A. A. Detuning the receiver to remove interfering signals

B. B. Extracting intelligence from the radio carrier signal

C. C. Removing atmospheric noise from the signal

D. D. Separating the TELEX signals from the voice signals

Demodulation refers to the process of extracting the original information or intelligence from a modulated carrier signal. In radio communications, this is essential because the information (such as voice, data, or video) is often transmitted by altering a carrier wave's characteristics. This alteration could involve changes in amplitude, frequency, or phase, depending on the modulation technique used. When a receiver gets the modulated signal, demodulation enables the receiver to retrieve the transmitted data by reversing the modulation process. This is critical to ensuring that the intended message can be interpreted correctly at the receiving end. The correct choice emphasizes this core function of demodulation, highlighting its role in the communication process. The other choices focus on different aspects of signal processing or interference. Detuning a receiver to remove unwanted signals, for instance, is related to tuning rather than the extraction of data. Removing atmospheric noise pertains to signal quality and clarity but does not directly refer to the fundamental process of demodulating the information. Lastly, the separation of TELEX signals from voice signals is a specific application of signal processing rather than a general definition of demodulation.

6. Which situation necessitates the use of Urgency priority?

A. A crewmember falling over the side.

B. A serious medical situation involving a crewmember.

C. An important meteorological warning concerning hazardous weather.

D. A cargo shift or weather situation greater than a Safety priority.

The situation that necessitates the use of Urgency priority is one where there is a concern for the safety of the vessel and its crew, but the situation is not immediately life-threatening. A cargo shift or severe weather that exceeds the threshold of a Safety priority is an example of an urgent situation. This can involve significant risks if not addressed quickly, such as compromising the stability of the vessel or leading to more severe conditions if precautionary measures are not taken. In this scenario, Urgency priority indicates that while the situation is serious and requires prompt communication, it does not warrant an immediate mayday call, which would be reserved for life-threatening emergencies. This distinction is essential in maritime communication because it helps ensure that emergency resources can be allocated appropriately and effectively.

7. What is the emission designation for MF-HF voice signals?

A. F1B

B. J2B

C. F3E

D. J3E

The emission designation for MF-HF voice signals is characterized by the specific type of modulation and the nature of the transmitted information. In the context of radio emissions, the designation "J3E" indicates that the signal is a single sideband (SSB) amplitude modulated (AM) voice signal. This designation is used for voice communication and is particularly effective for long-range communications because it allows for enhanced efficiency and reduced bandwidth usage compared to standard amplitude modulation. The "J" in "J3E" signifies a single sideband and is commonly associated with voice and telephony transmissions, which aligns with the context of using MF (Medium Frequency) and HF (High Frequency) radio bands for voice communications. Understanding the modulation scheme is essential for mastering radio operation and ensuring clear communications, especially in emergencies or critical communication scenarios often associated with GMDSS (Global Maritime Distress and Safety System) protocols.

8. Under what condition should a distress alert by a station on behalf of another vessel not occur?

A. When the mobile unit in distress is unable to transmit the alert

B. When the Master on the mobile unit decides against it

C. When further help is deemed necessary by the Coast Station

D. When communications with the Coast station are in progress

A distress alert by a station on behalf of another vessel should not occur when communications with the Coast station are in progress. This situation implies that the vessel in distress is already engaged in ongoing communication with the Coast station, which may involve providing information about its situation and any additional assistance it may require. If the Coast station is already aware of the distress situation through these communications, sending a separate distress alert would be redundant and could create confusion in the handling of the incident. Maintaining clear and accurate communication is critical in emergency situations to ensure that resources are appropriately allocated and that all parties have the most current information. Continuing the dialogue with the Coast station allows for more effective coordination of response efforts without the need for an additional alert that might not add value.

9. What determines whether a NAVTEX receiver prints a particular type of message content?

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.

The correct option highlights that a NAVTEX receiver filters and processes messages based on whether they have been previously received and how the subject indicator is programmed by the operator. Specifically, a message will be printed if it hasn't been received before, which avoids duplication and unnecessary clutter of already-known information. Additionally, if the subject indicator for the message type isn't set to be rejected, the receiver will accept and print the message. This functionality ensures that vessels only get the most relevant and new updates, helping to keep the information stream manageable and pertinent. NAVTEX receivers use a combination of serial numbers and subject indicators to streamline the information, making it essential for operators to manage these settings properly. The other options discuss scenarios where messages would either already be discarded or are prevented from being printed due to specific rejection settings, which would not align with the criteria for printing set forth in the correct answer.

10. What indication do personnel in a survival craft receive from the approach of SAR craft?

A. The Satellite EPIRB changes its strobe light pattern.

B. The SART informs survivors when it switches to standby mode.

C. The SART may provide a visual or audible indication of radar interrogation.

D. The AIS SART alarms to indicate SAR craft are getting close.

The reason that the chosen answer is accurate lies in the functionality of the Search and Rescue Transponder (SART). When a SART is activated and detects radar signals from a Search and Rescue (SAR) craft, it transmits specific responses to indicate to personnel in a survival craft that help is nearby. This is typically through visual signals displayed on radar screens, which can include indications such as a series of blips that help rescuers identify the location of survivors. The SART is designed to provide a clear and effective means of communication during rescue operations, as it specifically responds to radar interrogations. This connection between the SART's operations and its response to SAR craft is crucial for ensuring that survivors can be located quickly and efficiently. In contrast, other devices like the Satellite EPIRB and the AIS SART serve different purposes. The Satellite EPIRB does not change its strobe light pattern specifically to indicate SAR craft; it transmits distress signals. Similarly, the SART in standby mode does not provide any direct indication to survivors about the approach of SAR craft, and the AIS SART does not alarm in relation to the proximity of SAR craft in the same way as the SART that responds to radar interrogation does. The focus on radar