

## **ROC 5 EXAMINATION SYLLABUS**

The information contained in sections 5.1 and 5.2 has been extracted from Annex 1 of the text of the recommendation proposed by the Working Group "Radio Regulatory" (RR) for the Harmonised Examination Procedures for the Restricted Operators Certificate (ROC)- Recommendation T/R 31-03 E (Bonn 1993)- edition of May 1, 1993 and ERC Decision Annex 1 of ERC/DEC/(99)01 of 10 March 1999.

### **ROC 5.1 Examination Syllabus for GMDSS Restricted Operator's Certificate**

- A. Knowledge of the basic features of the Maritime Mobile Service
- B. Detailed practical knowledge and ability to use the basic communications equipment of a ship station :
  - B1 Use, in practice, the basic communications equipment of a ship station.
  - B2 Digital Selective Calling.
- C. Operational procedures and detailed practical operation of GMDSS system and sub-systems.
  - C1 Global Maritime Distress and Safety Systems (GMDSS).
  - C2 NAVTEX.
  - C3 Emergency Position Indicating Radio Beacons (EPIRBs).
  - C4 Search And Rescue Radar Transponder (SART).
  - C5 Distress, Urgency and Safety communications procedures in the GMDSS.
  - C6 Distress, Urgency and Safety Communications with Non-SOLAS ships which use radiotelephony.
  - C7 Search And Rescue operation (SAR).
- D. Miscellaneous skills and operational procedures for general communications.
  - D1 Ability to use the English Language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea.
  - D2 Obligatory procedures and practice.
  - D3 Practical and theoretical knowledge of general communications procedures.

### **ROC 5.2 Examination syllabus Guidelines for ROC Certificate**

- A. Knowledge of the basic features of the Maritime Mobile Service**
  - 1.1. Types of communications in the Maritime Mobile Service:-
    - distress, urgency and safety communications.
    - public correspondence.
    - port operations service.
    - ship movement service.

- intership communications.
- on-board communications.
- 1.2. Types of station in the Maritime Mobile Service:-
  - ship stations.
  - coast stations.
  - pilot stations, port stations etc.
  - aircraft stations.
  - rescue co-ordinating centres (RCC).
- 1.3. Elementary knowledge of frequencies and frequency bands:-
  - the concept of frequency.
- 1.4. Characteristics of frequencies:-
  - propagation of VHF and UHF frequencies.
- 1.5. Frequencies allocated to the Maritime Mobile Service:-
  - the usage of VHF and UHF frequencies in the maritime mobile service.
  - the concept of radio channel, simplex, semi-duplex and duplex, paired and un-paired frequencies.
  - frequency plan for VHF telephony (relevant appendix of Radio Regulations).
  - GMDSS distress and safety frequencies.
  - calling frequencies.

**B. Detailed practical knowledge and ability to use the basic communications equipment of a ship station.**

**B1 Knowledge of, and ability to use in practice, the basic equipment of a ship station.**

- 1.1. VHF radio installation:-
  - channels.
  - controls.
  - usage.
  - DSC.
- 1.2. Antennas:-
  - VHF antennas.
  - antennas for the NAVTEX system.
- 1.3. Batteries:-
  - types of batteries and their characteristics.
  - charging.
  - maintenance of batteries.
  - UPS systems.
- 1.4. Survival craft communications equipment:-

portable two-way VHF radiotelephone apparatus:-  
SART.  
EPIRB.

## **B2 Digital Selective Calling (DSC)**

- 2.1. Call format specifier:-
  - distress call.
  - all ships call.
  - call to individual station.
  - geographical area call.
  - group call.
  - automatic/semi-automatic service.
- 2.2. Call address selection with the MMSI number system:-
  - the nationality identifier.
  - group calling numbers.
  - coast station numbers.
  - Ship station numbers.
- 2.3. Call categorisation:-
  - distress.
  - urgency.
  - safety.
  - ship business.
  - routine.
- 2.4. Call telecommand and traffic information:-
  - distress alerts.
  - other calls.
  - working frequency information.
- 2.5. Usage of VHF channel 70.

## **C. Operational procedures and detailed practical operation of GMDSS system and sub-systems.**

### **C1 Global Maritime Distress and Safety System (GMDSS).**

- 1.1. Sea areas and the GMDSS master plan.
- 1.2. Watch keeping on VHF distress frequencies.
- 1.3. Functional requirements of ship station sailing within the limits of sea area A1.
- 1.4. Carriage requirements of ship station sailing within the limits of sea area A1.
- 1.5. Sources of energy of ship stations.

- 1.6. Means of ensuring the availability of ship station equipment.
- 1.7. Licenses, radio safety certificate, inspections and surveys.

## **C2 NAVTEX.**

- 2.1. The NAVTEX system:-
  - purpose of NAVTEX.
  - NAVTEX frequencies.
  - reception range.
  - message format (transmitter ID, message type, message number).
- 2.2. The NAVTEX receiver:-
  - selection of transmitters.
  - selection of message type.
  - messages which cannot be rejected.
  - use of subsidiary controls and changing paper.

## **C3. Emergency Position Indicating Beacons (EPIRBs).**

- 3.1. Satellite EPIRBs:-
  - basic characteristics of operation on 406 MHz.
  - basic characteristics of operation on 1.6 GHz.
  - 121.5 MHz beacons including homing functions.
  - information contents of a distress alert.
  - manual usage.
  - float-free function.
  - routine maintenance:-
    - testing.
    - checking battery expiry date.
    - cleaning of float-free release mechanism.
- 3.2 VHF DSC EPIRBs.
  - Basic characteristics of operation on Ch 70.

## **C4 Search And Rescue Radar Transponder (SART).**

- 4.1 Search And Rescue Radar Transponder (SART):-
  - main technical characteristics.
  - operation.
  - range of SART transmitter.
  - routine maintenance of SART:-
    - checking battery expiry date.

## **C5 Distress Urgency and Safety procedures in the GMDSS.**

- 5.1 Distress communications.
- DSC distress alert:-
    - the definition of a distress alert.
    - transmission of a distress alert.
    - transmission of a shore -to-ship distress alert relay.
    - transmission of a distress alert by a station not itself in distress.
  - receipt and acknowledgement of a DSC alert:-
    - acknowledgement procedures.
    - receipt and acknowledgement by a coast station.
    - receipt and acknowledgement by a ship station.
  - handling of distress alerts:-
    - preparation for handling of distress traffic.
    - distress traffic terminology.
  - testing DSC distress and safety systems.
  - on-scene communications.
  - SAR operation.
- 5.2. Urgency and Safety communications:-
- the meaning of Urgency and Safety communications.
  - procedures for DSC urgency and safety calls.
  - urgency communications.
  - Radio medical services.
  - medical transports.
  - safety communications.
- 5.3 Reception of Maritime Safety Information (MSI):-
- reception by NAVTEX.
  - navigational warnings transmitted by radiotelephony.
- 5.4 Protection of distress frequencies:-
- guard bands.
  - tests on distress frequencies.
  - transmissions during distress traffic.
  - avoidance of harmful interference.
  - prevention of unauthorised transmissions.

**C6 Distress, Urgency and Safety Communications with Non -SOLAS ships which use radiotelephony.**

- Distress signal
- Distress call
- Distress message
- Acknowledgement of a distress message
- Distress traffic terminology

Urgency signal  
Medical advice  
Safety signal

**C7 Search And Rescue operation (SAR).**

- 7.1 The role of RCCs.
- 7.2 International Aeronautical and Maritime Search And Rescue Manual (IAMSAR).
- 7.3 Maritime rescue organisations.
- 7.4 Ship reporting systems.

**D Miscellaneous skills and operational procedures for general communications.**

**D1 Ability to use English language, both written and spoken, for the satisfactory exchange of communications relevant to the safety of life at sea:-**

- 1.1 Use of International Code of Signals and the IMO Standard Marine Navigational Vocabulary/Seaspeak.
- 1.2 Recognised standard abbreviations and commonly used service codes.
- 1.3 Use of international phonetic alphabet.

**D2 Obligatory procedures and practice:-**

- 2.1 Effective use of obligatory documents and publications.
- 2.2 Radio record keeping.
- 2.3 Knowledge of the regulations and agreements governing the Maritime Mobile Service.

**D3 Practical and theoretical knowledge of general communications procedures.**

- 3.1 Traffic lists.
- 2.2 Radiotelephone call:-
  - method of calling a coast station by radiotelephony.
  - ordering for a manually switched link call.
  - ending a call.
  - special facilities call.
  - method of calling a coast station by DSC.
  - selecting an automatic radiotelephone call.
- 2.3 Traffic charges:-
  - international charging systems.
  - AAIC code.

currencies used in international charging.

the meaning of land line (LL) coast station (CS) and ship station (SS) charge.

3.4 Practical traffic routing.

3.5 Principal shipping routes and related communications routes appropriate for ships sailing within the limits of area A1.

### **ROC 5.3 Conditions of the Awards**

The GMDSS Restricted Operator's Certificate (ROC) will be awarded to applicants who have, by means of satisfactorily completing the appropriate standard written and practical tests, demonstrated their knowledge and ability in the areas detailed in Section 5.1