

**DIRECTORATE SENIOR CURRICULUM MANAGEMENT (SEN-FET)**

**HOME SCHOOLING SELF-STUDY TEST 1**

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| **SUBJECT** | NAUTICAL SCIENCE | **GRADE** | 12 | **DATE** | 6/24/20 |
| **TOPIC** | MARITIME COMMUNICATIONS | **TERM 1**  **REVISION** | X | **TERM 2 CONTENT** |  |
| **TIME ALLOCATION** | 1 hOUR | **TIPS TO KEEP HEALTHY**  1. **WASH YOUR HANDS** thoroughly with soap and water for at least 20 seconds. Alternatively, use hand sanitizer with an alcohol content of at least 60%.  2. **PRACTICE SOCIAL DISTANCING** – keep a distance of 1m away from other people.  3. **PRACTISE GOOD RESPIRATORY HYGIENE**: cough or sneeze into your elbow or tissue and dispose of the tissue immediately after use.  4. **TRY NOT TO TOUCH YOUR FACE.** The virus can be transferred from your hands to your nose, mouth and eyes. It can then enter your body and make you sick.  5. **STAY AT HOME.** | | | |
| **INSTRUCTIONS** | 1. **All** relevant working must be shown in your exercise/activity book.  2. **ALL** work done on the chart must be done lightly with a 2B pencil **ONLY**.  3. The attached extracts from nautical tables are to be used where applicable.  4. The use of scientific calculators is permitted.  5. Courses, bearings and corrections must be calculated to the nearest degree and plotted to a similar accuracy.  6. Use the **Variation** specified in the questions, and the attached deviation card is to be used.  7. It is in your own best interest to write legibly and present your work neatly. |

**QUESTION 1**

* 1. Define:
     1. Vessel (5)
     2. Power driven vessel (2)
     3. Sailing vessel (2)
     4. Vessel engaged in fishing (8)
     5. Vessel not under command (NUC) (3)
     6. Vessel restricted in ability to manuoeuvre (RAM) (3)
     7. Restricted visibility (7)

**Sub Total [30]**

**QUESTION 2**

* 1. Traditionally ships at sea have relied on Morse code for distress and safety telecommunications. GMDSS is a new international distress communication system that provides the communication support needed for search and rescue purposes.

Summarise the main concepts or principles and capabilities introduced by GMDSS in order to

improve maritime distress and safety communications. (3)

2.2 To which SOLAS ships is GMDSS mandatory / compulsory? (2)

2.3 Name five (5) major sub-systems comprising the GMDSS system. (5)

2.4 Describe what an EPIRB is. (10)

2.5 Describe what a SART is. (5)

2.6 Under SOLAS, every GMDSS-compliant ship, while at sea, must have a range of equipment

Capable of performing the nine (9) essential communication functions.

List five of these functions. (5)

**[30]**

**Grand Total [60]**

**QUESTION 2**

2.1 Name the two ways by which vessels identify each other by radio-telephony

over a radio network. (2)

2.2 According to the correct radio procedure, a general radio-telephony massage consists of four (4) elements/components. Name them. (4)

2.3 What is the code word/signal for the following messages?

2.3.1 “DISTRESS” message (1)

2.3.2 “URGENCY” message (1)

2.3.3 “SAFETY” message (1)

2.4 What do the following distress and safety messages/signals indicate and/or imply about the station initiating them?

2.4.1 “DISTRESS” call/message (1)

2.4.2 “URGENCY” message (1)

2.4.3 “SAFETY” message (1)

2.5 A “DISTRESS” message must comprise/consist of six (6) elements or

components. List them. (6)

2.6 Between a “DISTRESS” call, “DISTRESS” message, “URGENCY” message,

and “SAFETY” message; which has priority over all other transmissions? (1)

2.7 On whose authority/permission is a “DISTRESS” message sent? (1)

**Sub Total [20]**

**QUESTION 3**

3.1 Your vessel name is "Zupta," call sign ZSTW, and you are 50 miles NNE of Richards Bay proceeding towards the port in heavy weather, strong gale force winds from the South, and you have reduced visibility. You lose three containers overboard.

3.1.1 In terms of maritime communication, what type of message/warning

you would broadcast over radio? (1)

3.1.2 Give an example of the radio message to transmit in order to alert

ships of the navigation hazards posed by the cargo lost overboard. (10)

3.2 Your vessel, "Zupta," call sign ZSTW, has broadcast a distress message because your vessel had broken down and drifting ashore. Subsequently your engine is restarted and your situation no longer requires assistance.

3.2.1 In terms of maritime communication, what is one of the first things

you should do? (1)

3.2.2 Give an example of the radio message to transmit. (8)

3.3 What is the **international** distress frequency for radio telephony? (2)

3.4 What is the **maritime** distress frequency for radio telephony (2)

3.5 When making a radio call, radio operators must at all times observe good operating practices. Name any five (5) of these good operating practices. (5)

3.6 How many times is a ‘silence period’ observed in a single hour? (1)

**Sub Total [30]**

**GRAND TOTAL : 70**