 Province of the

EASTERN CAPE

EDUCATION

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

**HOME SCHOOLING SELF-STUDY WORKSHEET TEST SHEET**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SUBJECT** | **NAUTICAL SCIENCE** | **GRADE** | **12** | **DATE** | **10/04/20** |
| **TOPIC** | **SEAMANSHIP, COMMUNICATIONS AND METEOROLOGY** | **TERM 1**  **REVISION** | **X** | **TERM 2 CONTENT** | **X** |

**PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY**

**2. Answer all the questions in Sections A, B and C.**

**4. The use of scientific calculators is permitted.**

**5. Alphanumeric calculators and dictionaries are not permitted.**

**6. Nautical tables may be used.**

**7. It is in your own interest to write legibly and to present your work neatly.**

**REQUIREMENTS**

**Drawing instruments Radar Plotting Sheet**

**ANNEXURES**

**1. NIL**

**SECTION A**

**QUESTION 1**

**1.1 In terms of the International Regulations for Preventing Collisions at Sea, 1972, as amended (the COLREGS), what action should a power driven vessel take when being overtaken by another vessel and there is risk of collision? (8)**

**1.2 What vessels are required to comply with the COLREGS? (2)**

**1.3 1.3.1 What is the meaning of the term 'vessel restricted in her ability to manoeuvre'? (4)**

**1.3.2 List 3 types of vessel operations that would restrict a vessel's ability to manoeuvre in terms of the COLREGS. (6)**

**1.4 Describe with the aid of a sketch, the lights and day shapes that a vessel not under command (NUC) is required to exhibit whilst under way. (6)**

**1.5 Two power-driven vessels making way through the water and crossing, are in risk of collision. What is the responsibility of each of these vessels in terms of the COLREGS? (4) [30]**

**QUESTION 2**

**List ten action points the OOW would immediately take in the event of the vessel running aground. [10]**

**QUESTION 3**

**3.1 When proceeding outbound from a port in Region A down a buoyed channel, which side must you pass a red can buoy with a can shaped top mark? (1)**

**3.2 What colours are used for the following?**

**3.2.1 lateral marks (2)**

**3.2.2 safe water marks (2)**

**3.2.3 special marks (1)**

**3.3 What top marks do the following buoys have?**

**3.3.1 lateral (2)**

**3.3.2 special (1)**

**3.3.3 isolated danger (2)**

**3.4 If you see a cardinal mark painted with the horizontal bands black-yellow-black, on which side do you pass it (i.e. north, south, east or west)? (1)**

**3.5 If you see a cardinal mark with two conical top marks the apexes (tops) of which point downwards, on which side would you pass the buoy (i.e. north, south, east or west)? (1)**

**3.6 What does a buoy that is painted with red and white vertical stripes indicate? (1)**

**3.7 On which side would you pass a yellow spherical buoy? (1) [15]**

**QUESTION 4**

**4.1 What are the design features of a Ro-Ro ship? (5)**

**4.2 What is a Reefer vessel? (5)**

**4.3 List five export commodities that would typically be loaded onto a reefer vessel in a South African port. (5) [15]**

**90 marks**

**SECTION B**

**QUESTION 5**

**5.1 What is an 'URGENCY' message? (5)**

**5.2 Your vessel's name is 'CORMORANT', call sign ZTOP, and you are on passage south of Cape Recife lighthouse (bearing 355° (T) × 8 miles), and you sight a semisubmerged white 6 m container in the water. The wind is East force 4, weather overcast and visibility is good.**

**Prepare a safety signal (SECURITE) reporting this sighting to the local coastal station and ships in the vicinity. Use the phonetic alphabet where applicable. (6)**

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

**5.4 When are the distress silence periods? (2) [15]**

**QUESTION 6**

**6.1 What causes wind to blow in a particular direction? (2)**

**6.2 Near the equator the wind tends to move parallel to the isobars, but elsewhere it tends to be deflected. What is the deflecting force called? (1)**

**6.3 In which direction is this deflection in the northern hemisphere? (2)**

**6.4 Describe with the aid of a sketch what a 'Col' is. In your sketch show the relevant pressures of each of the isobars and wind direction, assuming this is in the southern hemisphere. (15) [20]**

**35 marks**