ΑΕΝ ΜΑΚΕΔΟΝΙΑΣ **ΝΕΑ ΜΗΧΑΝΙΩΝΑ, 11/09/2023**
ΣΧΟΛΗ ΠΛΟΙΑΡΧΩΝ

ΕΞΕΤΑΣΤΙΚΗ ΠΕΡΙΟΔΟΣ ΣΕΠΤΕΜΒΡΙΟΥ 2023
ΝΑΥΤΙΚΑ ΑΓΓΛΙΚΑ Δ' ΕΞΑΜΗΝΟΥ

ΟΝΟΜΑΤΕΠΩΝΥΜΟ ΣΠΟΥΔΑΣΤΗ/ΡΙΑΣ ……ΑΓΜ:……

Good luck!!!

ΘΕΜΑΤΑ

EXERCISE A. Find and write the term next to its definition. **(1.2 p.)**

1. A systematic and documented evaluation of the effectiveness of a safety activity and its component parts.
2. The certificate required for an OOW to work on the bridge, as per STCW.
3. Floating ice (7/10 to 8/10 concentration) composed by floes mostly in contact.
4. What is the name of ice that moves under the action of wind and current?
5. You need this form to enter an enclosed space.

EXERCISE B. *True or False?* Write (T) for True or (F) for False. **(1.3 p.)**

1. A Greek vessel is registered when it sails under the Greek flag.
2. When the engines are on 5' notice, it means that they have paused for 5 minutes.
3. The captain holds a *Pilotage Exemption Certificate*, so the vessel does not require a pilot.
4. Consequence and likelihood are the axes of the risk-assessment matrix.
5. Information about anchors is not included in the *Ship to Shore Master/Pilot Exchange* form.

EXERCISE C. Fill in the missing words. Write the correct word in the blanks. **(2 p.)**

chamber, relieve, overriding, integrated, overrated, resumed, suspended, navigational, error, involved

- The presence of a pilot on the ship does not (**1**)..... the master or officer in charge of the (**2**) ..... watch from their duties.
- In most ship bridges nowadays, a(n) (**3**) ..... Bridge System is used.
- When it comes to bridge management, the importance of communication cannot be (**4**) ..... .
- Bridge Procedures Guide is published by the International (**5**) .....of Shipping.
- Pilot service is (**6**) .....due to restricted visibility. Service will be (**7**) .....when conditions improve.
- As per ISM, the Master has the (**8**) ..... authority to make decisions with respect to safety and pollution prevention.
- People (**9**) ..... in maritime activities have heard that human (**10**) ..... is the cause of 80% of maritime accidents.

EXERCISE D. Match the synonyms/definitions. Write the correct word next to each number. There are extra words. **(1 p.)**

goal, deployment, rupture, dent, countermand, magnitude, liable, proficient, accustomed, reluctance

1. size, importance	**3**. cancel the original command and give a new one	**5**. a slight hollow in a hard even surface made by pressure	**7**. objective
2. skilled in doing/ using something	**4**. bringing into effective action	**6**. familiar with	**8**. unwillingness to do something

EXERCISE E. Match the verbs to their counterpart to form complete sentences. Write the correct number in the boxes. (1 p.)

1. Lay	☐ equipment is ready to be used
2. Check if	☐ tanks and cofferdams
3. Inform	☐ manropes
4. Sound	☐ records
5. Keep	☐ changes of water levels
6. Note	☐ team members together
7. Fasten	☐ lashings
8. Redo	☐ Master on situation

EXERCISE F. Write the derivative noun of the following verbs in the blank column. (1 p.)

Verb	Noun
1. deteriorate	
2. adjust	
3. implement	
4. abrade	
5. recur	
6. assess	
7. enforce	
8. dismiss	
9. elect	
10. commence	

EXERCISE G. Reading Comprehension. Read the text and do the exercises below. (2.5 p.)

("The Hazards of Ice", The Swedish Club, Letter 2-2003, abridged)

Introduction

The Swedish P&I Club annually deals with a large number of ice-related claims. The Club's experience is that masters and shipowners on many occasions seem to be surprised by the force, strength and toughness that ice constitutes and the severe damage it might inflict on a vessel. In the past winter, among other areas, the Gulf of Finland and the approach to St. Petersburg witnessed a lot of incidents where ships were not entirely fit for the purpose, masters not sufficiently trained for the task and shipowners did not seem to take the issue of ice seriously enough. The main reasons are lack of knowledge and experience of ice, no doubt coupled with commercial reasons and considerations. This article highlights some of the factors and dangers that seafarers are exposed to when navigating through ice.

Navigation

Navigation through ice-infested waters is always a difficult and delicate task. Poor visibility caused by fog and/or snowfall is often related to icy waters. Sight must be given very careful consideration, for false horizons are frequently observed in ice. One important aid is the radar, which has been found to be a most valuable tool for safe navigation when used judiciously. It is necessary to optimise the radar settings in order to be able to detect icebergs, or ice walls in ice-covered waters. Other valuable aids are the various electronic positioning fixing systems, such as the GPS. Good searchlights should also always be available during the hours of darkness.

Beset

The vessel's speed in ice requires careful consideration by the master. If a vessel goes too slowly, she risks being beset, if too fast she risks damage from collision with floes. Experience has shown that vessels that are not ice-strengthened, and that do not maintain a speed of about 12 knots in open water, often become firmly beset even in light ice conditions. Furthermore, ships operating in ice should be ballasted and trimmed so that the propeller is completely submerged and as deep as possible, but without excessive stern trim which reduces manoeuvrability. When operating in ice, the first principle for making a successful passage is to maintain freedom of manoeuvre. Once a ship becomes trapped, she will go wherever the ice goes. In ice concentration, three basic ship handling rules apply, namely, keep moving, even if very slowly, try to work with the ice movement and not against it, and, do not forget

that excessive speed leads to ice damage. Every opportunity should be taken to use leads through ice. When not accompanied by an icebreaker, it is unwise to follow a shore lead with an onshore wind blowing, as moving ice may force a vessel aground. The most serious danger in connection with ice is from the pressure of the ice, which may crush the hull and tear off the ship's bottom. A ship beset in ice can drift with the ice against shoals and the shore. Every precaution should therefore be taken to avoid this situation. Anchoring should as a matter of course be avoided in a heavy concentration of ice. If the ice is moving, its tremendous force may break the cable. If several vessels are to be assisted at the same time, a convoy is to be formed.

Ice accumulation

Ice accumulation on ships is another serious danger of water in its frozen form. This can be a threat to the ship, cargo and crew when it accumulates on the hull and superstructure of a ship. Ice accumulation may occur from fog, freezing drizzle, rain or wet snow, or spray or seawater breaking over the ship (when the air temperature is below the freezing point of seawater (-2°C). The ice on deck and on the rigging is liable to endanger those on deck by falling down or simply because of the plain slipperiness of it. Ice may also damage radio aerials and radar and satellite equipment. This is a subsequent danger to the further advance of the vessel. However, by far the most dangerous situations are when a ship encounters heavy weather and rough sea, with heavy seas breaking over the vessel, while the temperature is running low. This can alter a ship's GM (the metacentric height, which is a measure of ship's stability) to critical points. In extreme cases this has led to the capsizing of vessels. The dangerous conditions are those in which strong winds are experienced, above force 6, and the air temperature falls below -2°C.

(a) Match the two halves of the sentences that summarize the points of the article. (1 p.)

1. Trim by the stern	a. … can underestimate the potential damage of ice.
2. Masters and shipowners	b. … can reduce manoeuvrability.
3. Excessive speed	c. … can break the anchor cable.
4. The strength of ice when it moves	d. … can be the most dangerous situation.
5. The combination of rough sea and freezing temperature	e. … can lead to ice damage.

(b) Answer the following questions. (1.5p.)

1. What is the *false horizon* effect/phenomenon and how can it be avoided?
2. How can moving ice cause a vessel to run aground?

Η εισηγήτρια ,
Αθανασιάδου Ιφιγένεια