



Suomen Navigaatioliitto ry

Examination in Coastal Navigation 13.12.2019

Tot. points

The points given for each correct answer is marked next to the problem. Maximum points are 30. The limit for passing the examination is 15 points. Use the enclosed chart, tide table and deviation card.

Mark your answers also on this examination form. All calculations should appear on this form or on a separate sheet of paper attached to this form. Answers without calculations are not accepted.

Name, Sos. Sign, Address, Post Office, Phone, Teacher, Examin site, Org. assoc., I order DIPLOMA, CERTIFICATE, e-mail

Completion of EXAMINATION IN INSHORE NAVIGATION

(Place, month and year)

Before you start, read this introduction!

The journey is made with a power driven 12 m long seaworthy vessel. The vessel is equipped with i.e. a standard compass, a fixed spare compass, maritime VHF, GPS, chart plotter and radar.

Weather forecast Gulf of Finland, southerly wind 0-5 m/s. Good visibility.

Variation= 6°E.

DEVIATION CARD STANDARD KOMPASS

Table with 3 columns: CC, dev, MC. Rows from 0° to 360°.

1. You are approaching the Hanko harbour on the 30th of August 2004 at 13.00. The draught of your vessel is 2.1 m. The wanted under keel clearance is 0.6 m. The depth in the harbour is 1.2 m according to the chart.

a) What is the height of tide needed for entering the harbour?

1 p

ANSWER:

b) What time, at the earliest, is it possible to enter the harbour?

1 p

ANSWER:

c) You plan to continue your journey on the evening of the same day. What time do you need to leave, at the latest, to have sufficient depth of water in the harbour?

1 p

ANSWER:

What happens to the personal information that you give us? An authorized person at the SNL Member Society that receives your examination copies your name and personal ID from the examination form to a withdrawal form. The withdrawal form and the examination form will be sent to the SNL. The SNL archives the hard copy of the withdrawal list. Your examination form will be destroyed safely after one year of the examination.

2. On the 29th of August 2004 at 08.00 (a.m.), your position is 59°37,0'N, 023°20,0'E. What is the direction and speed of the tidal stream in the area?

3 p

ANSWER:

3. Your position is 59°28,0'N, 023°30,0'E. You plan to continue your journey towards the Osmussaari lighthouse with a speed of 9 knots. All the way, your boat is affected by current. The current's direction is 090° and speed 3.7 kn.

a) What compass course do you need to steer to get to the Osmussaari lighthouse?

2 p

ANSWER:

b) What is your speed over ground?

1 p

ANSWER:

4. From the position 59°42,0'N, 022°40,0'E you are steering a compass course of 226°, and the strengthened southerly wind causes a leeway of 15° during the whole voyage.

a) What is the closest distance at which you pass the Bengtskär lighthouse?

2 p

ANSWER:

b) What is the relative bearing to the lighthouse at the closest passing distance?

1 p

ANSWER:

5. You are crossing the 13,0 m fairway on the west side of the Porkkala lighthouse. You take a bearing of the Oxhornen leading lines using the spare compass. The compass bearing is 025° . The spare compass shows a steering course of 090° .

a) What is the deviation of the spare compass at the steered course?

2 p

ANSWER:

b) An ordinary one-antenna GPS navigator cannot replace a magnet compass. Why?

ANSWER:

1 p

6. Your dead reckoning position is $60^\circ 01,0'N$, $025^\circ 40,0'E$. Your compass course is 310° and your speed is 6 knots. At 17.20 the relative bearing to the Porvoo lighthouse is 035° to the starboard side, and at 17.45 the relative bearing is 070° to the starboard side.

What is your position at 17.45?

3 p

ANSWER:

7. Your dead reckoning position is $59^\circ 42,0'N$, $025^\circ 31,5'E$. Your compass course is 260° and your speed is 12 knots. At 16.30 you are observing the Juminda lighthouse in compass bearing 151° and at 17.00 the Keri lighthouse in compass bearing 236° . The bearings are taken with the standard compass.

What is your position at 17.00?

3 p

ANSWER:

8.

a) What are the key characteristics of waves?

ANSWER:

1,5 p

b) What are the most important factors affecting the formation of waves?

ANSWER:

1,5 p

c) What does the term **sea clutter** mean?

ANSWER:

1 p

9. Check the right alternative:

Right

Wrong

a) In the northern hemisphere, wind in a low-pressure system swirls clockwise around the low-pressure center.

0,5 p

b) Long-lasting front thunders may occur in connection with a cold front.

0,5 p

c) Decrease of air pressure is a sign for an approaching low-pressure system.

0,5 p

d) The strong wind advisory is given when the wind speed forecast is 14-20 m/s.

0,5 p

e) Advection fog forms when cold air flows over warm sea water.

0,5 p

f) VRM is radar's adjustable range ring for measuring distances.

0,5 p

g) Radar does not belong to the vessel's radio station.

0,5 p

h) The function of the fluxgate compass is based on the rotation of the Earth.

0,5 p

i) Border checks cannot in any circumstance be performed on a pleasure boat directly arriving from another Schengen country to Finland.

0,5 p

j) There is a tax border between Ahvenanmaa and mainland Finland.

0,5 p