



Suomen Navigaatioliitto ry

Examination in Coastal Navigation 20.4.2018

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 on this examination form. All your calculations should appear on this form or on a separate sheet of paper attached to this form.

Answers without calculations are not accepted

Name _____ Teacher _____

Sos. Sign _____ Examin site _____

Address _____ Org. assoc. _____

Post Office _____ I order DIPLOMA CERTIFICATE

Phone _____ 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, chartplotter and radar (Head up). Weather forecast for shipping the 29th of August at 06.00. Forecast until tomorrow morning: Gulf of Finland: Southerly wind 2–5 m/s. Good visibility. **Variation = 6°E**, if not otherwise mentioned.

DEVIATION CARD STANDARD KOMPASS

CC	dev	MC
0°	-1°	359°
10°	-1°	9°
20°	0°	20°
30°	+1°	31°
40°	+2°	42°
50°	+4°	54°
60°	+4°	64°
70°	+3°	73°
80°	+2°	82°
90°	0°	90°
100°	-1°	99°
110°	-3°	107°
120°	-4°	116°
130°	-6°	124°
140°	-7°	133°
150°	-8°	142°
160°	-8°	152°
170°	-6°	164°
180°	-4°	176°
190°	-3°	187°
200°	-1°	199°
210°	0°	210°
220°	+1°	221°
230°	+3°	233°
240°	+5°	245°
250°	+6°	256°
260°	+8°	268°
270°	+9°	279°
280°	+8°	288°
290°	+6°	296°
300°	+4°	304°
310°	+3°	313°
320°	+2°	322°
330°	+1°	331°
340°	0°	340°
350°	-1°	349°
360°	-1°	359°

1. On the 29th of August 2004 at 08.00 your position is 59°37,0'N 023°20,0'E. You plan to continue your travel towards the Jussarö lighthouse (59°47,41'N 023°32,98'E).

a) What is the direction and speed of the tidal stream?

2 p

ANSWER:

b) What is your compass course assuming that the direction and speed of the tidal stream is constant during the whole voyage? Your speed is 8 knots.

2 p

ANSWER:

c) When will you arrive at the distance of 1 M from the Jussarö lighthouse?

1 p

ANSWER:

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2. You are approaching the Hanko harbour on the 27th of August 2004 at 23.00. The draught of your vessel is 2 m. The wanted under keel clearance is 1.2 m. The depth in the harbour is 1.0 m according to the chart.

a) At what time is it possible to enter the harbour?

1 p

ANSWER:

b) You plan to continue your travel in the dawn. When do you have to leave at the latest so that the water depth would still be sufficient?

1 p

ANSWER:

3. From the position $59^{\circ}42,0'N$ $022^{\circ}40,0'E$, you are steering a compass course of 226° . 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:

4. You are crossing the 9,0 m fairway, the leading lines of which are on the west side of Söderskär. You take a bearing along the leading line using the spare compass. The compass bearing is 039° . The spare compass shows a steering course of 130° .

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

1 p

ANSWER:

b) Is the function of the fluxgate compass based on the Earth's magnetic field?

1 p

ANSWER:

5. Your Dead Reckoning position is $59^{\circ}47,2'N$ $024^{\circ}03,7'E$. Your compass course is 062° and your speed is 6 knots. At 14.30 the relative bearing to the Porkkala lighthouse is 045° to the port side, and at 15.00 abeam on port side.
What is your position at 15.00?

2 p

ANSWER:

6. Your Dead Reckoning position is $59^{\circ}43,0'N$ $025^{\circ}38,0'E$. Your compass course is 231° and your speed is 6 knots. At 16.00 you are observing the Juminda lighthouse in compass bearing 191° and at 17.00 the same lighthouse in compass bearing 093° . The bearings are taken with the standard compass.
What is your position at 17.00?

2 p

ANSWER:

7. Your Dead Reckoning position is $60^{\circ}03,0'N$ $025^{\circ}28,0'E$. Your compass course is 178° and your speed is 6 knots. At 10.00 you are observing the Porvoo lighthouse in compass bearing 037° and at 10.20 the Kalbådagrund lighthouse in compass bearing 104° . The bearings are taken with the standard compass.
What is your position at 10.20?

2 p

ANSWER:

8. In the night your position is 59°47,2'N 024°03,7'E. You plan to drive with radar (Head up) along fairways to the position 59°56,2'N 024°19,7'E.

a) Draw a route plan on the chart for radar navigation.

2 p

b) What does the text Racon (O), next to the chart symbol of the Oxhornen lower leading beacon, mean?

ANSWER:

1 p

c) Which one is more accurate, a distance or bearing measured by radar?

ANSWER:

1 p

9. Check the right alternative.

Right Wrong

a) Thunderstorms and gusty winds are usually related to warm weather fronts.

1 p

b) The strong wind advisory is given when the 10-minute average wind speed at a height of 10 meters above the ground is 14-20 m/s.

1 p

c) The radar picture is disturbed by steep nearby waves caused by wind.

1 p

d) Border checks cannot in any case be performed on a pleasure craft directly arriving from another Schengen country to Finland.

1 p

10.a) What type of fog can be very thick and last for a long time?

ANSWER:

1 p

b) What is GMDSS?

ANSWER:

1 p

c) Which of the following devices of a vessel is/are subject to license? Circle the yes or no alternative for each device. Justify your answer.

AIS Responder yes no (0,5 p)

Radar yes no (0,5 p)

VHF yes no (0,5 p)

2 p

JUSTIFY: (0,5 p)