

THE ANSWER FOR BOAT'S OPERATORS EXAMINATION

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|----------------|---|
| DATE | 20 <input type="text" value="2"/> <input type="text" value="0"/> 年 <input type="text" value=""/> <input type="text" value="9"/> 月 <input type="text" value="1"/> <input type="text" value="0"/> 日 |
| CLASSIFICATION | FIRST CLASS <input checked="" type="checkbox"/> SECOND CLASS <input type="checkbox"/> PWC <input type="checkbox"/> |
| TEST | <input type="text" value="F"/> |

Advanced Part

| General Knowledge Required and Rules | ※Common Part Steering and Sailing Rules ※Personal Water Craft 13-Steering and Sailing Rules 23-Operation | ※Common Part Operation ※Personal Water Craft Operation | ※Common Part Operation | ※51-Advanced Operation I ※59-Advanced Operation II |
|---|--|---|------------------------|---|
| 1 | 13 | 27 | 41 | 51 |
| 2 | 14 | 28 | 42 | 52 |
| 3 | 15 | 29 | 43 | 53 |
| 4 | 16 | 30 | 44 | 54 |
| 5 | 17 | 31 | 45 | 55 |
| 6 | 18 | 32 | 46 | 56 |
| 7 | 19 | 33 | 47 | 57 |
| 8 | 20 | 34 | 48 | 58 |
| 9 | 21 | 35 | 49 | 59 |
| 10 | 22 | 36 | 50 | 60 |
| 11 | 23 | 37 | | 61 |
| 12 | 24 | 38 | | 62 |
| | 25 | 39 | | 63 |
| | 26 | 40 | | 64 |

Examination for First Class Boat's Operator

Advanced Part
(Qs51 through 64)

| | |
|------|---|
| Test | F |
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| Examinee's Number | R2 9/10 |
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Notes:

1. The answer to each question must be written on the separate answer sheet.
2. There is only one correct answer for each question.

【 Subjects of the examination and examination period 】

| Type of License Held | Subject(s) to be Taken | Examination Period |
|---|--|---|
| None | Common Part and Advanced Part (Qs 1 through 64) | 140 minutes (two hours and 20 minutes) |
| ①Second Class (One Nautical Mile Limitation) ②Personal Water Craft | Steering and Sailing Rules Operation Advanced Part (Qs 13 through 64) | 125 minutes (two hours and 5 minutes) |
| Second Class | Advanced Part (Qs 51 through 64) | 70 minutes (one hour and 10 minutes) |

Note: For scoring and passing standards, please refer to the leaflet (First or Second Class).

[Advanced Operation I]

Q51 A navigation plan has been created as described below. When a vessel departs from point A at 10:00 and navigates through the entire course at 20 knots, at what time will it arrive at point D? Choose the correct answer from the following. Note that no effects of winds, tidal streams, and ocean currents are assumed. (Use nautical chart W150 for examination.)

Departing point A Start from a point in a sea area northwest of Ushijima Island, with Midorisaki Lighthouse at the north end of Ushijima Island sighted at a magnetic bearing of 070° and Heisaki Lighthouse at the east end of Oshima Island sighted at a magnetic bearing of 300°, and navigate on a magnetic course of 355°.

First course alteration point B Alter the magnetic course to 312° at a point where Kimisaki Lighthouse at the north end of Oshima Island is sighted abeam on the port side.

Second course alteration point C Alter course at a point where Hamasaki Lighthouse (Fl. 20s) south of Nagahama Town is sighted abeam on the starboard side.

Arrival point D Sea area south of Daito Port, 30° -19.2'N, 134° -56.4'E

- (1) Approximately 11:28
- (2) Approximately 11:48
- (3) Approximately 12:08
- (4) Approximately 12:28

Q52 Vessel G, which is navigating in a sea area north of Akishima Island on a compass course of 330° (deviation is 6° E), locates Matsusaki Lighthouse south of Kawaguchi City at a bearing of 059° and a distance of 8 nautical miles by radar. Which of the following corresponds to vessel G's position in latitude and longitude? Note that the radar indicates a relative bearing. (Use nautical chart W200 for examination.)

- (1) 40° -25.0'N, 139° -59.7'E
- (2) 40° -22.6'N, 140° -02.5'E
- (3) 40° -22.2'N, 140° -03.7'E
- (4) 40° -21.5'N, 140° -05.7'E

Q53 Vessel J, navigating at a speed of 10 knots in a sea area east of Maeshima Island, reaches a point where Maeshima Lighthouse is sighted at a magnetic bearing of 275° and Nagasaki Lighthouse is sighted at a magnetic bearing of 005°. In order to navigate from this point to the starboard light buoy (Fl (2) R 6s) on the harbor limit of Kawaguchi Port, which of the following magnetic courses should the vessel take? Choose the correct answer from the following. It is assumed that there is an ocean current of 2 knots flowing in the direction of 160° (true bearing) in this sea area. (Use nautical chart W200 for examination.)

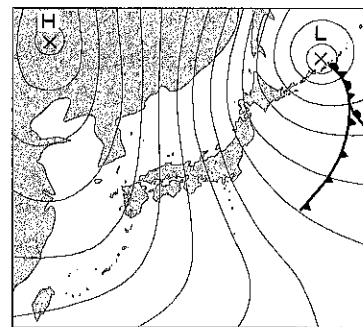
- (1) 067°
- (2) 073°
- (3) 080°
- (4) 087°

Q54 When creating a navigation plan, which coastal facilities along the planned course should be selected as emergency contacts? From the combinations of ① to ⑤, choose the appropriate one.

- ① Local Marine Accident Tribunal
- ② Marina
- ③ Fisheries cooperative association
- ④ Japan Coast Guard office
- ⑤ Lighthouse

- (1) ① and ③
- (2) ②, ③, and ④
- (3) ①, ②, ④, and ⑤
- (4) All are appropriate.

Q55 The figure at the right shows a surface weather chart illustrating the weather conditions around Japan on a certain day. Which of the following is appropriate as the combination of terms that fit in the blanks in the statement below concerning the weather conditions in this pressure pattern?



"This is a typical winter pressure pattern marked by (A). From late winter to early spring, the weather changes at regular intervals as the (B) high pressure system that produces this pressure pattern wanes. A spell of warm days and a spell of cold days alternate, and changes in temperature caused by this are called (C)."

- (1) (A): a high pressure system to the west and a low pressure system to the east
(B): Siberian
(C): alternation of three cold and four warm days
- (2) (A): a low pressure system to the east and a high pressure system to the west
(B): Siberian
(C): Indian summer
- (3) (A): a high pressure system to the west and a low pressure system to the east
(B): traveling
(C): alternation of three cold and four warm days
- (4) (A): a low pressure system to the east and a high pressure system to the west
(B): traveling
(C): Indian summer

Q56 Of the following statements concerning the tidal currents in the Bisan Seto Channel on October 15, which one is correct? According to the tide table, the tidal currents in the Bisan Seto Channel on this day are as shown in the table at the right, where + indicates a westerly current and - indicates an easterly current.

| October | | | | |
|--------------|-------|---------------|----|-----|
| 転流時 Slack | | 最強 Maximum | | |
| h m | | h m | kn | |
| 15 | 01 53 | 04 58 | + | 1.7 |
| | 07 46 | 10 55 | - | 1.9 |
| | 14 17 | 17 28 | + | 2.2 |
| | 20 24 | 23 27 | - | 2.0 |

- (1) The change from the easterly current to the westerly current occurs at 04:58 and 17:28.
- (2) The easterly current becomes strongest at 07:46.
- (3) The westerly current becomes strongest at 14:17.
- (4) In the morning, the westerly current flows from 01:53 to 07:46.

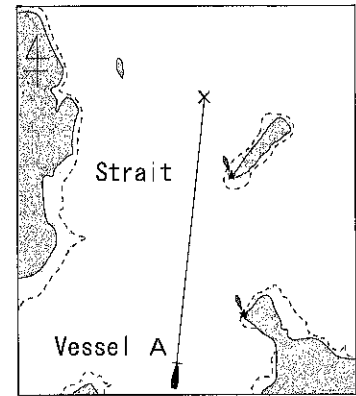
Q57 Of the following statements concerning the purposes of using a sea anchor, which one is inappropriate?

- (1) To let the bow cut through waves under heavy weather or if it becomes impossible to navigate the vessel
- (2) To suppress the movement of the vessel position if the rudder or engine fails
- (3) To suppress the pitching and rolling of the hull when enjoying fishing or diving
- (4) To achieve rapid deceleration by using it in combination with astern propulsion when the vessel needs to stop urgently

Q58 Of the facts mentioned below that concern the following marine accident, which one cannot be deemed to be a cause of it?

"Vessel A is a cruising motorboat whose gross tonnage is 27 tons and whose length is approximately 17 meters. The skipper is asked to navigate this vessel to a marina in a neighboring prefecture, with 5 acquaintances on board.

On the day of the cruise, a strong wind and high surf advisory is in place for the water area where the vessel is planned to navigate. The weather conditions are rough, with a strong northeasterly wind blowing and the wave height expected to increase from 2 to 3 meters. The skipper obtains this information via TV and phone before departure but does not know more than this when leaving the local marina. He is



not aware that a strong wind and high surf advisory has been in place for the water area since three days ago and that the sea is more stormy than he imagines. When leaving the marina, he thinks that, if the wave height exceeds 3 meters while underway, he will turn back and wait at Port D nearby until the sea becomes calm.

After a while, when vessel A comes near the strait whose mouth is open toward the northeast of its course, the hull of the vessel begins to roll fiercely due to the waves from the northern mouth of the strait. The skipper judges that the wave height is 2 to 3 meters, and visibility in the forward direction is becoming poor. So he switches from automatic steering to manual steering. Although the wave height can be expected to increase beyond the current point, the skipper does not give up navigating right away, thinking that he can turn back any time he sees it impossible to go on.

When the vessel reaches halfway through the strait, the waves are becoming even higher and the hull rolls even more fiercely. Judging that it is impossible to navigate further, the skipper decides to turn back. The skipper is watching the wave height and waiting for the best moment to turn back when a wave as high as 4 or 5 meters suddenly hits the starboard side of the bow. The bow is lifted up high and then plunges into a trough of waves, slamming the bottom of the bow to the sea surface. As a result, the windshield of the pilot house is broken into pieces, many parts of the hull are damaged, and most passengers sustain minor and serious injuries such as fractures."

- (1) The skipper fails to collect sufficient information about weather and sea conditions.
- (2) The water area where the vessel is planned to navigate is stormy, with a strong wind and high surf advisory remaining in place since three days ago.
- (3) The skipper tries to steer the vessel manually when it is a boat whose gross tonnage exceeds 20 tons.
- (4) The skipper continues to navigate without turning back when the wave height increases and visibility becomes poor.

[Advanced Operation II]

- Q59 Of the following statements that describe the warning devices of a diesel engine, which one is inappropriate?
- (1) The cooling water temperature alarm device is set off when the cooling water temperature is abnormally high.
 - (2) The cooling sea water flow rate alarm device is set off when the intake of cooling sea water is abnormally high.
 - (3) The lubricating oil pressure alarm device is set off when the engine oil pressure becomes abnormally low.
 - (4) The charging alarm device is set off when the alternator is not generating electrical power or is in an overvoltage condition.
- Q60 Of the following statements concerning the engine oil, which one is inappropriate?
- (1) The oil level is appropriate when it is between the high level mark and low level mark on the oil level gauge.
 - (2) If water is mixed with engine oil, the oil pressure lowers and the oil emulsifies.
 - (3) If fuel oil is mixed with engine oil, the oil pressure lowers and the oil releases a stronger odor.
 - (4) The engine oil should be replaced when the engine oil is completely cold.
- Q61 Of the following statements that describe how to recharge the battery of a boat by means of a power supply on land using the constant current recharging method, with the battery remaining on board, which one is inappropriate?
- (1) Pull the plug on the electrolytic solution inlet.
 - (2) Ensure there is proper ventilation because the battery produces gases.
 - (3) Keep the electrolytic solution level as low as 1 cm from the bottom of the battery plate.
 - (4) Suspend recharging if the temperature of the electrolytic solution exceeds 45° C.
- Q62 Of the following statements concerning the replacement of the propeller of a vessel with an outboard engine, which one is inappropriate?
- (1) Before the propeller is replaced, a piece of wood or other object should be put between blades to prevent the propeller from rotating.
 - (2) A fishing line entangled with the propeller shaft should be removed.
 - (3) When the propeller is mounted, the spline of the propeller shaft should be greased.
 - (4) After the propeller is replaced, antirust paint should be applied to the anticorrosive zinc provided near the propeller.
- Q63 Of the following failures that may occur while a gasoline engine (inboard-outdrive engine) is running, which one directly causes the engine to stop?
- (1) The V belt for driving the power steering pump tears, making the handle feel heavy.
 - (2) The fuel filter gets clogged, interrupting the supply of fuel.
 - (3) The throttle cable is cut, making it impossible to increase the rotation speed of the engine.
 - (4) The shift cable is cut, making it impossible to set the engine back into neutral.
- Q64 Which of the following can be deemed to be the reason why the exhaust gas color of a diesel engine becomes whiter than usual?
- (1) The engine is overloaded.
 - (2) The air filter of the turbocharger is dirty.
 - (3) The fuel injection nozzle is slightly clogged.
 - (4) There is too much engine oil inside the cylinder.