

of a like nature as may be put to him. He must understand the use of the sextant, and be able to observe with it and read off the arc.

*In Seamanship*—He must give satisfactory answers as to the rigging and unrigging of ships, stowing of holds, &c.; must understand the measurement of the log-line, glass and lead line; be conversant with the rule of the road, as regards both steamers and sailing vessels, and the lights and fog signals carried by them. He must pass a satisfactory examination in the International Code of Signals.

17.—An Only Mate must be nineteen years of age and have been five years at sea.

*In Navigation*.—In addition to the qualification required for a Second Mate, an Only Mate must be able to observe and calculate the amplitude of the Sun, and deduce the variation of the compass therefrom, and be able to find the longitude by Chronometer by the usual methods. He must know how to lay off the place of the ship on the chart, both by bearings of known objects and by latitude and longitude. He must be able to determine the error of a Sextant and to adjust it; also to find the time of High Water from the known time of the full and change.

*In Seamanship*.—In addition to what is required for a Second Mate, he must know how to moor and unmoor, and to keep a clear anchor; to carry out an anchor; to stow a hold; and to make the requisite entries in Ship's Log.

He will also be questioned as to his knowledge of the use and management of the mortar and rocket lines in the case of the stranding of a vessel.

18.—A First Mate must be nineteen years of age and have served five years at sea, of which one year must have been as either Second or Only Mate.

*In Navigation*.—In addition to the qualifications required for an Only Mate, he must be able to observe azimuths and compute the variation; to compare chronometers and keep their rates, and find the longitude by them from an observation of the Sun; to work the latitude by single altitude of the Sun off the meridian; and be able to use and adjust the Sextant by the Sun.

*In Seamanship*.—In addition to the qualifications required for an Only Mate, a more extensive knowledge of seamanship will be required as to shifting large spars and sails, managing a ship in stormy weather, taking in and making sail, shifting yards and masts, and getting heavy weights, anchors, &c., in and out; casting a ship on a lee shore; securing the masts in the event of accident to the bowsprits.

19.—A Master Ordinary must be twenty-one years of age, and have been six years at sea, of which at least one year must have been as First or Only Mate, and one year as Second Mate.

In addition to the qualification for a First Mate, he must be able to find the latitude by a star, &c. He must also be able to answer a certain number of the questions on Compass deviation, contained in Circular 517, issued by the Board of Trade, 1871. He will be examined in so much of the laws of the tides as is necessary to enable him to shape a course and to compare his soundings with the depth of water marked on the charts. He will be examined as to his competency to construct jury rudders and rafts; and as to his resources for the preservation of the ship's crew in the event of wreck. He must be able to heave a ship down to get

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