

and use the lead and log lines, to manage a ship's boat in a surf or in heavy weather, to bend, unbend, set, reef, take in, and furl sail, to know how to act for the safety of the vessel if caught in a sudden squall, and what action to take if a man falls overboard or if spars carry away; also any other questions appertaining to the duties of the master of this class of vessel.

Master of Sailing-ship plying in Harbours and Rivers.

70. A master of a sailing-ship in harbours or rivers must be twenty-one years of age, and must have served at least one year at sea or on board of a vessel plying within harbour or river limits. He must produce satisfactory testimonials of good conduct and sobriety. He must be able to read and write and understand the first five rules of arithmetic, simple and compound. He must understand the rules of the road as regards both steamers and sailing-ships, their regulation lights and fog and sound signals, and the local harbour regulations. He must understand how to act for the safety of the ship if caught in a sudden squall, and what action to take if a man falls overboard; also any other questions of a like nature appertaining to the duties of the master of this class of ship.

Master of a Cargo-vessel up to 25 Tons Register, or of a Fishing-vessel.

71. A candidate must be not less than twenty-one years of age, and have served four years at sea or in extended river limits, one year of which service must have been in the same class of vessel as that for which the certificate is desired.

72. **Examination in Navigation.**—He must be able to read and write a legible hand, and understand the first five rules of arithmetic, simple and compound. He must be able to take a bearing by compass, be conversant with the use of Mercator's chart, and be able to find, on a *magnetic* chart, the course to steer and the distance from one given position to another, to find the ship's position on the chart from cross-bearings of two objects, and from two bearings of the same or different objects, the course and distance run between taking the bearings being given, also the distance of the ship from the object at the time of taking the second bearing. He must be able to find the deviation of the compass by bearings of two objects in a line. He must be able to find the times of high and low water at the different places given in the "New Zealand Nautical Almanac." He must also pass an examination in the International Code of Signals, the New Zealand General Harbour Regulations, and the colonial bar and tidal signals.

73. **Examination in Seamanship.**—He must possess a thorough knowledge of the rule of the road as regards both steamers and sailing-vessels, their regulation lights, and fog and sound signals. He must be able to describe the signals of distress and the use and management of the rocket apparatus in the event of his vessel being stranded, and a knowledge as to the ports in New Zealand where such rocket apparatus for saving life has been placed. He must be able to mark and use the lead and log lines, to manage a ship's boat in a surf or in heavy weather, to bend, unbend, set, reef, take in, and furl sail, to know how to act for the safety of the vessel if caught in a sudden squall, and what action to take if a man falls overboard or if spars carry away; also any other questions of a like nature appertaining to the duties of the master of this class of vessel.

EXTRA CERTIFICATES.

Certificates as Extra Master.

74. **Extra Master.**—An extra master's certificate will entitle the holder to go to sea as master of any vessel, sailing or steam.

The examination is voluntary, and intended for such persons as wish to prove their superior qualifications, and are desirous of having certificates of the highest grade granted by the Marine Department.

The extra examination may take place when the applicant is qualified to go up for examination for an ordinary master's certificate, or at any time subsequent to his having passed the examination for that certificate. (See also para. 161.)

75. **Examination in Navigation.**—In addition to the work for the ordinary certificate the candidate must also be prepared to be examined in any of the following subjects, showing the construction of all the problems:—