

SYLLABUS.

(Read, write a legible hand, and spell correctly. This will be tested by not less than 15 minutes' dictation.)

79. Paper 1.—Arithmetic and Navigation. (Two hours.)

- (a) The first five rules, both simple and compound.
- (b) Find the distance from a point or light by the methods shown in the "New Zealand Nautical Almanac" of 1925, on pages 105 and 108, or on pages 135 to 138 of Tables of Azimuth, Great Circle Sailing, &c., published by the Marine Department.
- (c) Find the times and heights of high and low water at any place for which time differences are given in the New Zealand Nautical Almanac.

80. Oral.

- (a) International regulations for prevention of collision at sea.
- (b) Bending, unbending, setting, reefing, taking in, and furling sail.
- (c) Knowledge of cargo work, and ventilation of holds.
- (d) Management of boats under oars and sail and in heavy weather, landing in surf.
- (e) Distress and pilot signals—penalties for misuse.
- (f) Marking and use of ordinary lead line; mechanical logs.
- (g) Use and management of rocket apparatus and knowledge of ports where such is maintained.
- (h) Engine-room telegraphs; sluices; ballast tanks, &c.
- (i) Possess a knowledge of the tide, bar, harbour, and storm signals as used within New Zealand.
- (j) Explain the marking, signs, and abbreviations on Admiralty charts and plans.
- (k) Read an aneroid barometer and thermometer, and understand their use.

Signals : To send and receive signals in—

- (a) British semaphore up to eight words per minute.
- (b) Morse code by flash-lamp up to six words per minute.
- (c) International Code of Signals and Allied Signal Manual.

Any question appertaining to the duties of the second mate of a home-trade ship which the Examiner may think necessary to ask.

MATE.

81. A candidate must be not less than twenty years of age, and have served four years at sea, or two years at sea and two years in extended-river limits.

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82. Paper 1.—Arithmetic and Navigation. (Two hours.)

- (a) As for second mate home-trade.
- (b) To find the latitude by meridian altitude of sun.
- (c) To find the true amplitude or azimuth of the sun by means of azimuth or amplitude tables, and from a compass bearing to find the compass error and deviation, the variation being given.

83. Paper 2.—Chart Work. (Three hours.)

- (a) Understand the use of a Mercator's chart, and be able to find on a chart or plan the course or courses to steer and the distance or distances from one given position to another.
- (b) Find the ship's position together with the set and drift (if any) on a chart or plan from cross bearings of two objects.
- (c) Find the ship's position from two bearings of the same or different objects, the course and distance run between taking the bearings being given, making due allowance for a given tidal stream or current; also the distance of the ship from the object or any given position at the time of taking the second bearing.
- (d) Find on a chart or plan the course to steer by compass in order to counteract the effect of a given tidal stream or current, and to find the distance the ship will make good towards a given point in a certain time.
- (e) To fix the ship's position by wireless cross bearings applying the necessary corrections.
- (f) Work out practically the correction to apply to soundings taken at a given time and place to compare with the depths marked on the chart.