



SUPPLEMENT

TO THE

NEW ZEALAND GAZETTE

OF

FRIDAY, NOVEMBER 20, 1891.

Published by Authority.

WELLINGTON, TUESDAY, NOVEMBER 24, 1891.

Regulations for Examination of Masters and Mates.

Marine Department,

Wellington, 23rd November, 1891.

IN pursuance and exercise of the powers vested in me by the 24th and 25th sections of "The Shipping and Seamen's Act, 1877," I do hereby make the following Regulations for the conduct of Examinations of Masters and Mates, and as to the qualifications of applicants; and direct that the fees specified therein shall be paid to the Collectors of Customs at the ports where the applications are made. These regulations shall come into force on the first day of February next, and shall then supersede any rules or regulations heretofore existing and affecting such examinations, qualifications, and fees.

JOHN MCKENZIE,

For the Minister having charge of the Marine Department.

PRELIMINARY.

1. Under the provisions of "The Shipping and Seamen's Act, 1877," no Foreign-going Ship* or Home Trade Passenger Ship* can legally proceed to sea from any port in the colony unless the Master thereof, and, in the case of a Foreign-going Ship, the First and Second Mates, or Only Mate (as the case may be), and, in the case of a Home Trade Passenger Ship, the First or Only Mate (as the case may be), have obtained and possess valid Certificates either of Competency or Service, appropriate to their

several stations in such ship or of a higher grade; and no such ship, if of 100 tons register or upwards, can legally proceed to sea unless at least one officer besides the Master has obtained and possesses a valid Certificate, appropriate to the grade of Only Mate therein or to a higher grade; and every person who, having been engaged to serve as Master, or as First or Second or Only Mate of any Foreign-going Ship, or as Master or First or Only Mate of a Home Trade Passenger Ship, goes to sea as such Master or Mate without being at the time entitled to and possessed of such a certificate as the Act requires, or who employs any persons as Master, or First, Second, or Only Mate of any Foreign-going Ship, or as Master or First or Only Mate of any Home Trade Passenger Ship, without ascertaining that he is at the time entitled to and possessed of such certificate, for each offence incurs a penalty not exceeding fifty pounds.

2. Every Certificate of Competency for a Foreign-going Ship is to be deemed to be of a higher grade than the corresponding Certificate for a Home Trade Passenger Ship, and entitles the lawful holder to go to sea in the corresponding grade in such last-mentioned ship; but no Certificate for a Home Trade Passenger Ship entitles the holder to go to sea as Master or Mate of a Foreign-going Ship.

3. Certificates of Competency will be granted to those persons who pass the requisite examinations, and otherwise comply with the requisite conditions. For this purpose Examiners have been appointed, and arrangements have been made for holding examinations.

4. Candidates for examination must make their application upon the appropriate form (Exn. 2), which must be filled up at a Mercantile Marine Office (Custom House). The Exn. 2 properly filled in, together with the Candidate's testimonials and

* By a Home Trade Passenger Ship is meant one which is employed in carrying passengers on the coasts of New Zealand, but not to or from the Chatham Islands, the Auckland Islands, or Campbell Island. By a Foreign-going Ship is meant every ship not included in the term Home Trade Ship.

discharges, must be lodged with the Superintendent of the Mercantile Marine Office, not later than the day before the day of examination, and the Candidate must conform to any regulations in this respect which may be laid down by the Marine Department, as, if this be not done, delay may be occasioned.

5. Testimonials of character, and of sobriety, experience, ability, and good conduct on board ship, for at least the twelve months of service immediately preceding the date of application to be examined, will be required of all Applicants, and without producing them no person will be examined.

6. The testimonials of servitude of Foreigners and of British Seamen serving in foreign vessels, which cannot be verified, must be confirmed either by the Consul of the country to which the ship in which the Candidate served belonged or by some other recognised official authority of that country, or by the testimony of some credible person on the spot having personal knowledge of the facts required to be established. The production, however, of such proofs will not of necessity be deemed sufficient. Each case will be decided on its own merits, and, if the sufficiency of the proofs given appears to be at all doubtful, it must be referred to the Marine Department.

7. Should any doubt exist as to the age of a Candidate, he will be required to produce a certificate of birth.

8. Foreigners must prove to the satisfaction of the Examiners that they can speak and write the English language sufficiently well to perform the duties required of them on board a British vessel.

9. Statement of services in ships over eighty tons, of which the agreements with the crews have been entered into in New Zealand, can be verified by the Superintendents of Mercantile Marine Offices, and may be obtained on application at such offices upon payment of a small fee, the amount of which will be regulated by the amount of service required to be verified. Delay, inconvenience, and disappointment will be avoided by candidates getting this verification beforehand.

10. The time for which length of service as Seaman or Officer in the Mercantile Marine is to be reckoned in all cases referred to in the following paragraphs is to commence at the date when the Articles of Agreement were signed by the Applicant, and to end at the date when he was discharged as shown on the Articles of Agreement. The Certificates of Discharge will generally be sufficient evidence of this, but great care must be exercised by the Superintendent and Examiners to detect any tampering in any way with the information contained in them, and to report to the Marine Department at once any suspicious cases.

11. Services which cannot be verified by proper Entries in the Articles of the ships in which the Candidates have served cannot be counted. For instance, a man will state his service to have been as Second or Only Mate, and to support his assertion will produce a Certificate of Discharge or of employment by the Master, to the effect that he served as Mate, when on reference to the Articles it appears that he has actually been rated as Boat-swain; the service in such a case will not be regarded as having been in the capacity of Mate.

12. Whenever a man has, from any cause, been regularly promoted on a vacancy in the course of the voyage from the rank in which he first shipped, and such promotion, with the ground on which it has been made, is properly entered in the Articles and in the Official Log Book, he will of course receive credit for his service in the higher grade for the period subsequent to his promotion.

13. Service in the coasting trade may be allowed to count as service, in order to qualify a candidate for examination for a Certificate of Competency for Foreign-going Ships; it being understood, however, that service in the coasting trade must amount to half as much again as service in the foreign trade, and that service in a lower grade than that of First or Only Mate in the coasting trade will not be recognised as officer's service.

14. Three years' service as Mate in the coasting trade, together with at least nine months' service as Master, may be allowed to count as service for a Master's Certificate for Foreign-going Ships, provided the Candidate's entire service at sea calculated as above is sufficient, and that his services as Mate and Master in the coasting trade can be proved by the Articles, and provided he has already passed an examination for the *Foreign Trade*, unless, under special circumstances, the Marine Department see fit to dispense with this latter provision.

15. Services in Pleasure Yachts of not less than twenty tons register, performed within Home-trade limits, may be accepted towards qualifying a Candidate for examination, provided the Candidate has proof of from six to twelve months' service in an ordinary trading vessel, the amount of the latter service to be determined by the nature and length of the Candidate's experience in Pleasure Yachts. Only service at sea will be allowed to count, and time spent in port will not be accepted. The Candidate must have his sea services verified as far as possible. He must then fill in an application form (Exn. 2) and forward it, filled up in the usual way, to the Marine Department, accompanied by a full and detailed description of all the services claimed (if not officially verified), such as the nature and length of voyages, &c., capacity served in, tonnage of vessels, whether steam or sailing, time actually afloat, time in harbour, &c.; and unless these particulars are forwarded to the Marine Department supported by satisfactory certificates and testimonials no application will be entertained.

16. Service in Pleasure Yachts will not be accepted at all unless verified by satisfactory proofs, and it must be distinctly understood that accepted service is confined to *actual sea service*, service in harbour or port being inadmissible. See also *par. 26*.

17. Time for which Indentures of Apprenticeship are in force will be accepted as sea service, provided that the Apprentice has remained by the ship for at least four-fifths of the time covered by the Indentures, and that the Indentures of the applicant are indorsed by the Owner or Master to whom he has been bound, to the effect that he has performed his service faithfully for the whole time agreed upon.

18. Service as Third or Fourth Mate may be accepted as equivalent to service as Second Mate to qualify a Candidate for examination for a Certificate of Competency as First Mate, provided he is able to produce a satisfactory testimonial from the Master or Owner of the vessel in which the service was performed, showing that he has had charge of a watch while serving as such Third or Fourth Mate, and that during the whole of the time claimed he was in possession of a Second Mate's Certificate of Competency, valid in New Zealand.

19. Service as Third or Fourth Mate may also be accepted on the same conditions to qualify a Candidate for examination for a Master's Certificate of Competency, provided he can produce satisfactory evidence of his having served at sea twelve months as Second Mate of a Foreign-going Ship while in possession of a First Mate's Certificate of Com-

petency, valid in New Zealand. If a Candidate has had no service as First Mate he must have been six and a half years at sea, of which two and a half years must have been as Mate of a lower grade under the above-named conditions. It will also be noted that occasional service in charge of a watch in the daytime will not be accepted as Mate's service under the Regulations.

20. Part of the time served on board a training ship will be allowed to count as service at sea, provided that the Candidate can produce amongst his testimonials a Certificate from the Committee that he has conducted himself creditably, and passed a good examination in seamanship so far as practised in the training ship as well as in other matters down to the time of his leaving the ship.

21. No Candidate will be allowed to be examined for any grade, whether for Extra, Ordinary, Fore and Aft, or Home-trade Passenger Ship Certificate, unless he has served at sea two years within the last six years, and six months within the last three years immediately preceding the date of his application to be examined.

22. A Candidate for an Ordinary Certificate of any grade who does not already hold an Ordinary Certificate of a lower grade must prove that he has served twelve months in a square-rigged sailing vessel within the last five years.

23. Any cases not coming within the conditions of paragraphs 21 and 22 must be submitted for the special consideration of the Marine Department before the Candidate is allowed to be examined.

24. No period of service on board a training ship will be allowed to count for more than one year's sea service, nor can it be accepted as equivalent to service in square-rigged vessels.

25. Service in Auxiliary Screw Whaling Ships and other Vessels with auxiliary steam power, which use their screws only in calms or during light winds, is considered as service performed in Sailing Vessels.

26. Service performed in Trawlers, Yachts, &c., *alone* will not qualify a Candidate for examination for a Foreign-going Certificate. He must show that he has served, in addition thereto, eighteen months in an ordinary trading vessel.

27. Candidates whose services have been in capacities other than Apprentice, Ordinary Seaman, or Able Seaman, *e.g.*, Cook, Steward, Carpenter, &c., will be required to satisfy the Marine Department or the Examiners that they have a good knowledge of Seamanship. This may possibly be proved by the production of satisfactory Certificates from Masters with whom the Applicants have served. Failing satisfactory evidence, the Applicant may be required to perform additional service, which must be in the capacity of Ordinary Seaman or Able Seaman.

28. Service performed on rivers, no matter of what size, or in smooth or partially smooth water, cannot be accepted.

29. A person who has lost the sight of one eye cannot be allowed to be examined for a Certificate of Competency. If he already holds a Certificate he will not be allowed to be examined for a Certificate of a higher grade. Provided that, in cases in which a special medical certificate is produced showing that the sight of the other eye is satisfactory, the Marine Department may, on application being made, give permission for the Candidate to be examined, provided he is in all other respects qualified under the regulations.

30. Service in Light Ships or in an Engine-room will not be accepted as sea service for a Master's or Mate's Certificate of Competency.

31. In the case of service on board Excursion Steamers only such service as has been performed actually at sea can be accepted.

32. Service as a First-class Pilot may be accepted as qualifying for examination for a Master's Certificate for Home Trade Passenger Ships, notwithstanding that he may not have served in the capacity of Mate, but only provided that his *Sea Services* are sufficient.

33. A First-class Pilot, with one year's Sea Service since he obtained his Pilot's Certificate, may also be examined for a First Mate's Certificate for Foreign-going Ships.

34. Half the amount of service performed as an Apprentice in a Pilot Ship propelled by sails may count as actual Sea Service to qualify for examination for a Certificate of Competency.

35. Service performed in Tug Boats employed outside Port limits may be accepted as Sea Service for qualifying for a Mate's Certificate for Home Trade Passenger Ships.

36. It is provided by "The Shipping and Seamen's Act, 1877" (sec. 32), that every person who makes, or procures to be made, or assists in making, any false representation for the purpose of obtaining for himself or for any other person a Certificate of Competency, shall for each offence be deemed guilty of a misdemeanour,—the punishment for which is imprisonment for any period not exceeding twelve months, with or without hard labour, or a penalty not exceeding one hundred pounds.

37. These provisions will be *strictly enforced* by the Marine Department, and any Candidate for a Certificate of Competency as Master, or as First, or Second, or Only Mate, in the Merchant Service, who shall, knowingly and fraudulently, for the purpose of obtaining any such Certificate, present to the Examiner any "application to be examined for a Certificate of Competency" (Exn. 2), or statutory declaration containing any false or inaccurate statement of service, and any person who shall knowingly and fraudulently make or prepare, or assist in making or preparing any such false or inaccurate statement will be *prosecuted*.

38. Candidates who have neglected to join their vessels after having signed Articles, or who have deserted their vessels after having joined, or who have been found guilty of gross misconduct on board, will be required to produce satisfactory proofs of two years' subsequent service and good conduct at sea, unless the Marine Department, after having investigated the matter, should see fit to reduce the time.

39. If after a Candidate has passed his examination it is discovered on further investigation that his services are insufficient to entitle him to receive a Certificate of the grade for which he has passed, it will not be granted to him; but if the Marine Department is satisfied that the error in the calculation of his services did not occur through any fault or wilful misrepresentation on his part, he will be allowed to go up for re-examination without payment of further fee when he has performed the amount of service in which he was deficient.

40. If in such a case the applicant's services are sufficient to entitle him to receive a Certificate of a lower grade, provided as aforesaid he has not wilfully misrepresented the amount of his services, an Inferior Certificate may be granted to him, and the difference, if any, between the fee paid by him for the Superior Certificate and the fee payable for the Inferior Certificate may be placed to his credit.

41. In such a case, when the applicant has by further service made up the amount in which he was found to be short, he must, before he can receive the higher Certificate, be re-examined in all the subjects.

42. If any Certificate of Competency issued by the Marine Department which has been defaced so as

to become illegible, or has been seriously injured by wear or tear, is presented to a Superintendent of Mercantile Marine in the course of duty, the same should at once be transmitted by the Superintendent to the Secretary of the Marine Department, together with the usual form of application for renewal of Certificate duly filled up, in order that a renewed Certificate may be issued. This will be done free of charge in those cases where it is satisfactorily shown to the Marine Department that due care has been taken of the original. This power will have to be exercised with great discretion by the Superintendents of Mercantile Marine, so as not to interfere with any engagement for sea service which the possessor of the injured Certificate may have entered into.

COLOUR TESTS.

43. The Marine Department has made the following arrangements for the Examination of persons as to their ability to distinguish Colours:—

44. Examinations in Colour are open to any person serving, or about to serve, in the Mercantile Marine.

45. Any person, including the holders of Certificates of Competency, or persons about to apply for Certificates of Competency, if desirous of being examined in Colours only must make application to a Superintendent of a Mercantile Marine Office on Form Exn. 2^a, and pay a fee of Two Shillings and Sixpence.

46. He must on the appointed day attend for examination at the Examiner's Office; and, if he passes, he will receive a Certificate to that effect.

47. If he fails it will be open for him to be examined again in Colours as often as he pleases on payment of the fee of Two Shillings and Sixpence at each fresh attempt.

48. The application of a *Candidate who is presenting himself for Examination for a Master's or Mate's Certificate* must be made on Form Exn. 2. Such examination will commence with the Colour test; and if the Candidate does not at the time of making application hold a Certificate of Competency of any grade, and should fail to pass the Colour test he will not be allowed to proceed with the examination in Navigation and Seamanship.

49. The fee he has paid for Examination for a Certificate of Competency will include the fee for the Colour test, and, with the exception of Two Shillings and Sixpence, will in such event be returned to him.

50. A Candidate for Examination for a Certificate of Competency who at the time of making application does not possess a Certificate, and who fails to pass the Colour test, may not be re-examined until after the lapse of three months from the date of his first failure. If he fails a second time he will be allowed a third trial at the expiration of another three months from the date of his second failure. A fresh fee must be paid at each succeeding examination.

51. It is therefore obviously to the advantage of Candidates for Certificates of Competency to apply in the first instance to be examined in Colours only on Form Exn. 2a.

52. A Candidate who holds a Certificate of Competency, and who on presenting himself for examination for a Certificate of a higher grade, is unable to pass the Colour test, will notwithstanding be permitted to proceed with the Examination in Navigation and Seamanship for the Certificate of the higher grade.

53. Should he pass this Examination, the following statement will be written on the face of the higher Certificate which may be granted to him,

viz: "This Officer has failed to pass the 'Examination in Colours.'"

54. Should he ultimately fail to pass the Examination in Navigation and Seamanship a like statement, relating to his being Colour blind, will be made by the Marine Department on his existing Certificate before it is returned to him.

55. Holders of Certificates which bear the statement of their having failed to pass in Colours, and who may desire to have the statement removed from their Certificates, must obtain the special permission of the Marine Department.

QUALIFICATIONS FOR CERTIFICATES OF COMPETENCY FOR A "FOREIGN-GOING SHIP."

56. *Examination in Colours.*—All Candidates for Certificates of Competency must first be examined in colours.

57. A Second Mate must be not less than seventeen years of age, and must have been four years at sea. He must also prove that he has served at least one year in a square-rigged sailing vessel within the last five years. *See also par. 13.*

58. *In Navigation, &c.*—He must write a legible hand, and will be required to give in writing definitions of various astronomical and other terms used in navigation. He must have a competent knowledge of the first five rules of arithmetic, and the use of logarithms. He must be able to work a day's work complete, correcting the courses for deviation, leeway, and variation. He will be required to find the latitude by meridian altitude of the sun, and the difference of longitude from a given departure by parallel sailing; also to find the course and distance from one position to another by Mercator's method. He will be required to find the time of high water at a given port, to observe and calculate the amplitude of the sun, and to find the error of the ship's compass therefrom, and also the deviation, the variation being given. He must be able to find the daily rate of the chronometer from error observed, and to find the longitude from altitude of the sun by the usual methods. He must understand the use of the sextant, with its adjustments, and be able to observe with it, find the index error by the horizon, and read *off* and *on* the arc. He must also pass a satisfactory examination in the International Code of Signals.

59. *In Seamanship, &c.*—He must give satisfactory answers as to the standing and running rigging of ships, as to bending, unbending, setting, reefing, taking in and furling sail; as to sending masts and yards up and down, &c., &c.; as to seeing everything in readiness and clear for getting under way and (in steamers) as to the precautions to be observed with regard to engines, propeller, &c.; as to the management of both a steamer and a sailing ship when under canvas; of a ship's boat in heavy weather; and as to dunnaging and stowing cargo, &c. He must have a thorough knowledge of the rule of the road as regards both steamers and sailing vessels, their regulation lights, and fog and sound signals, and be able to describe the signals of distress, and the signals to be made by ships wanting a pilot, and the liabilities and penalties incurred by the misuse of these signals. He must be able to mark and use the lead and log lines. He must also understand the construction, use, and action of the sluices and of the water-ballast tanks, engine-room telegraph, &c. He must also understand the use and management of the rocket apparatus in the event of his vessel being stranded, and other questions of a like nature, appertaining to the duties of the Second Mate of a ship, which the Examiner may think necessary to put to him.

60. *An Only and First Mate.*—An Only Mate and a First Mate must be not less than nineteen years of age, and must have served five years at sea within the last seven years, of which, in the case of a First Mate, one year must have been as Second or Only Mate. An Only Mate must prove that he has served at least one year in a square-rigged sailing vessel. *See also pars. 13, 18, and 33.*

61. *In Navigation.*—In addition to the qualifications required for a Second Mate, an Only and First Mate must be able to find the true bearing of the sun and the error of the ship's compass from an observed azimuth of the sun, both from an altitude and also from the "Time Azimuth Tables," and with the variation given compute the deviation; to find the latitude from a single altitude of the sun off the meridian, and be able to use and adjust the sextant, and to find the index error by the sun; also to ascertain the true bearing of the sun, &c., and the ship's position, by Sumner's method by projection. He must also be conversant with the use of Mercator's Chart, and be able to find, on either a "true" or "magnetic" chart, the course to steer and the distance from one given position to another; and find the ship's position on the chart from cross bearings of two objects; from two bearings of the same object, the course and distance run between taking the bearings being given; and the distance of ship from the object at the time of taking the second bearing. He must also understand how to keep a ship's Log Book. He will also be required to answer certain questions, in writing (*and orally*), relative to cyclones or revolving storms.

62. *In Seamanship, &c.*—In addition to the qualifications required for a Second Mate, a more extensive knowledge of seamanship will be required, as to shifting large spars, rigging shears, taking lower masts in and out, how to moor and unmoor ships, and to keep a clear anchor; to carry out an anchor; how to manage both a steam- and sailing-ship in stormy weather; how to cast a ship on a lee shore; how to secure the masts in the event of accident to the bowsprit; and how to rig purchases for getting heavy weights, anchors, machinery, &c., in and out. He must give satisfactory answers as to the ventilation of holds and the stowage of explosives. He must be able to describe the effects of the screw-race upon the rudder, and the effect produced on the direction of the head of the ship by going [ahead] [astern] with a [right-] [left-] handed screw when the rudder is [ported] [starboarded]. He must also know how to rig a sea anchor, and what means to apply to keep a vessel disabled or unmanageable out of the trough of the sea, and lessen her lee drift. How to get cast of deep sea lead in heavy weather; and answer any other questions appertaining to the duties of an Only and First Mate of a ship which the Examiner may think necessary to put to him.

63. *A Master* must be twenty-one years of age, and have been six years at sea, of which one year must have been as First or Only Mate in a Foreign-going Ship, and one year as Second or Only Mate; or he must have been six and a half years at sea, of which two and a half years must have been as Second Mate of a Foreign-going Ship, during the last twelve months of which service as Second Mate he must have been in possession of a First Mate's Certificate. He must also prove that he has served at least one year in a square-rigged sailing vessel in the capacity of either Apprentice, Seaman, Mate, or Master. *Vide also pars 13, 14, and 19.*

If the service with a First Mate's Certificate

dates further back than three years the Candidate's case must be specially considered by the Marine Department.

64. *In Navigation.*—In addition to the qualifications required for a Second, Only, and First Mate, a Master must be able to compute the latitude from the meridian altitude of a star, &c. He must be able to find the magnetic bearing from equidistant compass bearings of any fixed object when at sea, and compute the deviation therefrom. He must construct a deviation curve upon a "Napier's" diagram which will be furnished by the Examiner, and understand the practical application of the same, and give satisfactory written (*and oral*) answers to certain practical questions on the effect of the ship's iron upon the compasses, the method of determining the deviation, and compensating same by magnets and soft iron. He will be required to prove by the "Deviascope" (1) his knowledge of the laws of deviation and the tentative method of compass adjustment (this proof will take the place of the written answers and sketches illustrative of the question 19 of Form Exn. 7); (2) that he understands the practical application of the answers given by him to any of the other questions on Form Exn. 7 that the Examiner in the course of the examination may think fit to touch upon. He will be required to find the course to steer by compass in order to counteract the effect of a given current, and find the distance the ship will make good towards a given point in a certain time, and to work out practically the correction to apply to soundings taken at a given time and place to compare with the depth marked on the chart.

65. *In Seamanship, &c.*—In addition to the qualifications required of a Second, Only, and First Mate, he must be able to construct jury rudders for wood and iron vessels, both steam (screw) and sailing, and also rafts. He will be examined as to his resources for the preservation of the ship's crew in the event of wreck; as to the management of ships in heavy weather; as to rescuing the crew of a disabled ship; as to steps to be taken when a ship is on her beam ends, or in any danger or difficulty; or if disabled or unmanageable and on a lee shore; heaving a keel out, &c. How to use steam appliances in the event of fire, and the best arrangement for towing vessels under different circumstances. He must explain the mode of procedure when placing ship in dry dock, directing repairs, and if putting into port in distress with damage to cargo and ship. He must possess a sufficient knowledge of what he is required to do by law, as to entry and discharge, and the management of his crew, and as to penalties, and entries to be made in the official log, and a knowledge of the measures for preventing and checking the outbreak of scurvy on board ship, and the law as to load line marks, and the entries and reports to be made respecting them. He will be questioned as to his knowledge of invoices, charter party, bills of lading, Lloyd's agent, and as to the nature of bottomry, also bills of exchange, surveys, averages, &c.; and must answer any other questions of a like nature appertaining to the management of a ship which the Examiner may consider it necessary to touch upon.

CERTIFICATES FOR FORE-AND-AFT-RIGGED VESSELS.

66. Certificates for the grades of Master, First Mate, Only Mate, and Second Mate, on which the words "for Fore-and-aft-rigged vessels only" will be written, will be issued to candidates who have not complied with the regulation which requires them to have served at least one year in square-

rigged sailing vessels, or who prove in course of examination that they are ignorant of the management of square-rigged ships.

67. A certificate "for Fore-and-aft-rigged vessels only" will not entitle the possessor to act in a capacity for which a certificate is required in square-rigged vessels, amongst which are classed full-rigged ships, barques, brig, barquentines, brigantines, and steamships carrying square sails.

68. A Candidate possessing a certificate "for Fore-and-aft-rigged vessels only," and desiring to obtain an ordinary certificate of the same grade, must prove that he has served at sea at least one year in a square-rigged sailing vessel, and will be re-examined both in navigation and seamanship.

EXAMINATIONS FOR EXTRA AND HONORARY CERTIFICATES.

69. An Extra Master's Examination is voluntary and intended for such persons as wish to prove their superior qualifications, and are desirous of having certificates for the highest grade granted by the Marine Department.

70. The Extra Examination may take place at the time the applicant goes up for an Ordinary Master's Certificate, or at any time subsequent to his having passed as Master Ordinary.

71. A candidate for an Extra Certificate who may only be in possession of a Master's Certificate of Service must pass for Ordinary Master before or at the time he is examined for the Extra Certificate.

72. A Candidate who passes the Extra Examination will be entitled to receive his Extra Certificate at once, without reference to the time he has been afloat, and without being required to have served two years as Master, as heretofore.

73. *In Navigation.*—In addition to the qualifications required for an Ordinary Master's Certificate, the Candidate will be required to work a lunar observation by either sun, star, or planet; to compute the altitudes for the same when they are not given; to determine the latitude by the meridian altitude of the moon, and by an altitude of the Polar star at any time. He will be required to find the latitude by double altitudes of the sun, or of a star, and to verify the result by Sumner's method. He must find the error of a watch or chronometer from equal altitudes of the sun, and must be able to correct altitudes observed by means of an artificial horizon. He will be required to show a thorough knowledge of the laws of the deviation of the compasses in iron ships. He will be required to prove by the "deviascope" (1) his knowledge of the tentative method of compass adjustment; (2) that he really possesses a good knowledge of what he has written, by showing that he is acquainted with the practical application of the answers given by him to any of the questions in the Compass Deviation Syllabus that the Examiner in the course of the examination may think proper to touch upon. He must be acquainted with the leading principles of the construction of the sextant and of the "vernier." He must explain the nature of great circle sailing, and show how to apply practically that knowledge; and must have a more extensive knowledge of the subject of the law of storms than that required of the Master Ordinary.

74. *In Seamanship, &c.*—In addition to the qualifications required of an Ordinary Master, the Extra Master will be expected to give satisfactory answers to any questions in practical seamanship that the Examiners may think proper to put to him; and to show a more extensive knowledge

and aptness in the Civil Duties of a shipmaster than would be expected from a Candidate for an Ordinary Master's Certificate.

QUALIFICATIONS FOR CERTIFICATES OF COMPETENCY FOR A "HOME TRADE PASSENGER SHIP."

75. All Candidates for Certificates of Competency must first be examined in colours.

76. A Mate must be nineteen years of age, and have served four years at sea.

77. *In Navigation, &c.*—He must write a legible hand, and understand the first five rules of arithmetic, both simple and compound. He must be able to take a bearing by compass, and be conversant with the use of Mercator's chart, and be able to find, on either a "true" or "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; from two bearings of the same object, the course and distance run between taking the bearings being given; and the distance of the ship from the object at the time of taking the second bearing.

78. He must also pass an examination in the International Code of Signals.

79. *In Seamanship, &c.*—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 signals to be made by ships wanting a pilot, and the liabilities and penalties incurred by the misuse of these signals; also the use and management of the rocket apparatus in the event of his vessel being stranded. He must be able to mark and use the lead and log-lines, to moor and unmoor a vessel, and to manage a ship's boat in heavy weather, &c., &c. He must also understand the construction, use, and action of the bulkhead sluices, the engine-room telegraph, &c., and to answer any other questions of a like nature appertaining to the duties of the Mate of a Home Trade Passenger Vessel which the Examiner may think proper to put to him.

80. A Master must be twenty years of age, and have served five years at sea, of which one year must have been as First or Only Mate in the Home or Foreign Trade, during which service he must have been in possession of a Mate's Certificate for Home Trade Passenger ships or of a First or Only Mate's Certificate for Foreign-going Ships. *Vide also par. 32.*

81. *In Navigation, &c.*—In addition to the qualifications required of a Mate of a Home Trade Passenger Ship, a Master will be required to find on a chart the course to steer by compass in order to counteract the effect of a given current, and to find the distance the ship will make good towards a given point in a certain time, and to work out practically the correction to apply to soundings taken at a given time and place, to compare with the depth marked on the chart, &c. He will also be required to understand the use of the quadrant, to be able to observe with it, to read off and on the arc, and to find the index error by the horizon. He will also be required to find the latitude by a meridian altitude of the sun, and to give written answers to certain practical questions on the subject of the deviation of the compass.

82. *In Seamanship, &c.*—In addition to the qualifications required of a Mate of a Home Trade Passenger Ship, a Master must understand how to rig a sea anchor, and what means to apply to keep a steamer with machinery disabled out of the trough of the sea, &c. How to get a cast of the lead in

heavy weather, &c. He will be examined as to his resources for the preservation of the crew and passengers in the event of wreck, and the steps to be taken if his vessel is disabled and drifting towards a lee shore, and will be required to answer any other questions appertaining to the management of a Home Trade Passenger Vessel which the Examiner may think necessary to put to him.

VOLUNTARY EXAMINATION IN THE LAWS OF THE DEVIATION OF THE COMPASSES OF IRON SHIPS.

83. Any Master or Mate who wishes to pass a *voluntary* examination in the Syllabus of examination on the Laws of the Deviation of the Compasses of an Iron Ship, &c., can at any time be examined upon filling up the usual form of application, and the payment to the Superintendent of the Mercantile Marine Office of the usual fee of one pound. He will be required to prove by the "deviascope" (1) his knowledge of the tentative method of compass adjustment; (2) that he really possesses a good knowledge of what he has written, by showing that he is acquainted with the practical application of the answers given by him to any of the questions in the Compass Deviation Syllabus that the Examiner in the course of the examination may think proper to touch upon. If the Candidate passes the examination successfully, an indorsement to that effect will be duly made upon the Master's or Mate's Certificate held by him.

FAILURE.

84. In all cases of failure, the Candidate must be examined *de novo*. If a Candidate fails in *Seamanship*, he will not be re-examined *until after a lapse of six months*. Whether the whole or part of this period must be served at sea must depend upon the subjects in *Seamanship* in which the Candidate failed; but what amount (if any) of sea service will be required will be left to the discretion of the Examiners, subject, however, to revision by the Marine Department, should they see fit.

85. The Examiner, in making out his Report on Form Exn. 14, should state what amount (if any) of further sea-service the Candidate must perform, and he should also insert this information under Division H in Form Exn. 2.

86. If he fails three times in *Navigation*, he will not be re-examined until after a lapse of **THREE MONTHS** from the date of the *last failure*.

87. If a Candidate has failed in his examination, but the subjects in which he has failed are not included in the subjects required for a Certificate of a lower grade, he may, if he desires it, receive a Certificate of such lower grade.

88. No part, however, of the fee he has paid will be returned to him, and on presenting himself, when entitled for re-examination for the higher grade of Certificate, he will be required to pay a further full fee.

89. If a Candidate fails for bad spelling or writing, he will not be re-examined until after a lapse of at least three months.

FEEs.

90. Candidates for examination, in making their application on Form Exn. 2, will be required to pay the examination fee before any step is taken, whether by inquiring into their services or testing their qualifications, &c. Should it be found that their service is not sufficient to entitle them to be examined, or should their testimonials be unsatisfactory, or should they from any other cause not be examined, no part of the fee will be returned to them, but when they have fulfilled the requisite

service, or are able to produce satisfactory testimonials, as the case may be, they will be allowed to again present themselves for examination for a Certificate of the same grade without paying any further fee.

91. The fee for examination must be paid to the Superintendent of the Mercantile Marine Office in the cash-office. In any case in which a Candidate offers money to any other officer than a Superintendent, and in any place but in the cash-office, the Candidate so offering money will be regarded as having committed an act of misconduct, and will be rejected, and not allowed to be again examined for twelve months either at the port where the offence was committed, or at any other port.

92. If a Candidate fail in his examination *no part of the fee will be returned to him*.

The fees are as follow:—

For "Foreign-going Ships."

	£	s.	d.
Second Mate	1	0	0
First and Only Mate, if previously possessing an inferior Certificate, either granted by the Board of Trade, or by the Government of a British possession	0	10	0
If not	1	0	0
Master	2	0	0

Where a Candidate is in possession of Certificate for Fore-and-aft rigged Vessels, or for an ordinary Certificate of the same grade ... Half the usual fee.

Master Extra, if possessing an Ordinary Master's Certificate, first attempt Nil.

Master Extra, for every subsequent attempt 1 0 0*

For "Home Trade Passenger Ships."

Mate	0	10	0
Master	1	0	0

For Voluntary Examination in Steam.

Mate (Only or First)... ..	1	0	0
Master	1	0	0

For Voluntary Examination in Deviation of the Compass.

Mate (Second, Only, or First)... ..	1	0	0
Master	1	0	0

NOTE.—No abatement will be made in the fee charged to a Candidate for a Certificate for Foreign-going Ships in consequence of his possessing a Master's or Mate's Certificate for Home Trade Passenger Ships.

GENERAL INSTRUCTIONS TO EXAMINERS AND CANDIDATES.

93. All instruments necessary for use in the examinations are supplied by the Marine Department.

94. Before commencing the examination, the tables or desks must be cleared of all scraps of paper, or books that are not used in the examination, and care should be taken that the Candidates do not bring into the examination room any book, paper, document, or memoranda of any de-

* If the examination for the Extra Master's Certificate takes place at the same time as the examination for the Ordinary Master's Certificate the usual fee for the Ordinary Certificate must be paid, though no fee will be charged for the extra examination on the first attempt. On all subsequent attempts the fee of one pound will be charged for the extra examination in addition to any further charge which may have been incurred through failure to pass the ordinary examination.

scription whatever. No person whatever should be allowed in the room during the time of examination but those whose duties require them to be present.

95. No instructors will be allowed on the premises.

96. Candidates will under no pretence whatever be allowed to leave the premises while the examination is proceeding. If a Candidate has occasion to visit the retiring-room he will only be allowed to do so on the completion of the paper on which he may be engaged, when he will be required to enter in a book, kept for the purpose, the exact time of his leaving and returning to the examination-room. At ports where only a few Candidates are under examination, two persons will not be allowed to leave the room at the same time.

97. Candidates should be so placed as to prevent one copying from the other, and no communication whatever between the Candidates should be allowed.

98. If any blotting-paper is allowed it should be black; and when the first examination paper is issued, each Candidate should be furnished with a piece which must be returned to the Examiner upon the completion of the last paper.

99. The examination papers should be issued to the Candidates in half sheets only, and one at a time. This will prevent a candidate from spreading out the sheets on the table in an apparently careless manner, but so as to enable his nearest neighbour to look over and copy, or examine the problems. It will also enable the Examiner to look over and report upon the work on one half sheet, while the Candidate is at work upon another, and so on. When the errors are not too numerous, or when they are not from ignorance of the subject, the incorrect problems may be returned to the Candidate for correction, but in no case should the errors be pointed out by the Examiner, neither should any marks be made on the correct work of the problem, which would at once indicate how far or to what extent the work is correct. Should the problems be returned to the Examiner the second time incorrect, this would be a failure; and, as the time allowed is considered ample for working out the papers carefully, this rule is expected to be strictly observed.

100. At those ports where, from the large number of the Candidates, it may sometimes be found impossible to look over the work on the day of examination during the office hours, an hour in the morning on the following day may be allotted for the purpose of correcting the problems, but in no case should a Candidate have his problem returned to him for correction after he has made the second attempt.

101. The paper (Exn. 4a) is only for those candidates who present themselves for examination for the first time. It is intended not only to insure on the part of the Candidate a knowledge of the meaning of a variety of terms of great use to the Navigator respecting which much ignorance exists at present, but, at the same time, to test his handwriting and spelling.

102. In using this paper, the Examiner will place a mark against the numbers of the particular questions which he selects for answers, and not less than ten questions should be selected. The Candidate will then write against the questions so marked his definition of the terms in a clear and legible hand, so as to prevent the possibility of any letter being mistaken. Attention must be paid to the spelling and writing of all grades of Candidates.

The *supplementary viva voce test* should also be applied as usual.

103. In the questions on Deviation of the Compass (Exn. 7) the Examiner should indicate by a mark against at least twelve of the questions for answers, and those indicated must be correctly answered. The selected questions should be varied frequently, and no two Candidates should have precisely the same questions. The Candidate should be furnished with sheets of the blank ruled paper which is supplied for that purpose, with instructions that he is to write only on one side of the paper and to answer each of the questions against which a mark is placed in a clear and legible hand, and to commence each answer by writing down the number of the question to which it relates in the margin left for that purpose. The Candidate is to be tested by "Beall's Compass Deviascope," in which case it will not be necessary for him to give any written answer and sketches. A Candidate for an Extra Master's Certificate will not be required to answer the questions on the Deviation of the Compass on Exn. 7, but will be examined by the Syllabus and "Compass Deviascope."

104. In the *viva voce* examination a reasonable time should be allowed for the Candidate to give his answers. No assistance should be given or leading questions put.

105. Particular attention should be paid to the adjustments of the sextant, and the written answers should be given on the ruled paper in the same manner as the answers to the questions on Exn. 7, and the *supplementary viva voce test* applied as usual. Every Candidate should have a practical knowledge of what is known as the first three adjustments, and be able to read correctly *off* the arc, a supposed index error to be given by the Examiner as additive, as well as reading *on* the arc in the usual way.

106. All outstanding or minor corrections should appear in the margin of each problem paper; also on the chart papers Exn. 9 C and Exn. 9 D, and unless all these corrections appear on the papers of the Candidate they will not be considered complete.

107. In every case the Examination, whether for Only Mate, First Mate, Master, or Master Extra, is to commence with the problems for Second Mate.

108. Examiners should bear in mind that the problems to be performed are required as tests, and for the purposes of an Examination, and not for sea-going or practical purposes alone.

109. The Candidates will be allowed to work out the various problems according to the method and the tables they have been accustomed to use.

Time allowed for Problems and Writings.

110. Candidates for Second Mates' Certificates of Competency must complete the whole of their examination in Navigation in *eight hours*, including the time allowed for writing the definitions (Exn. 4a), the paper on the adjustment of the sextant, and the correction of all errors and oversights; but the nautical problems on Forms Exn. 4 and Exn. 5 must be completed within *six hours*, and without the Candidates leaving the premises during that period.

111. Candidates for Only and First Mates' Certificates must complete the whole of their Examination in Navigation in *twelve and a half hours*,* including the time allowed for the papers on the

*A Candidate (other than Second Mate) who may not previously have passed an examination may be allowed the time occupied in writing his definitions on Exn. 4a, in addition to the above.

sextant; the chart; cyclones or revolving storms; and for the correction of all errors and oversights; but the problems on Forms Exn. 4, Exn. 5, and Exn. 6 must be completed within six hours, and without the Candidates leaving the premises during that period.

112. *Candidates for Certificates as Masters' Ordinary* must complete the whole of their Examination in Navigation in fifteen hours, including the time allowed for the papers on the sextant; the chart; compass deviations; cyclones or revolving storms; and for the correction of all errors and oversights; but the problems on Forms Exn. 4, Exn. 5, and Exn. 6 must be completed within six hours, and without the Candidates leaving the premises during that period.

113. *Candidates, after finishing the problems required of the respective grades* on the first day of Examination, should proceed, until the end of that day, with such subjects as the definitions, sextant, chart, and Question 19 of Form Exn. 7.

114. *The Sumner problem (Exn. 6a)* must on no account be given out to any of the grades on the first day of the Examination, but should be the commencement of the Candidates' work on the second day, and on completion of this problem the Candidates for Masters' Certificates should proceed with the problems on paper Exn. 7.

115. *Candidates for Home Trade Mates' Certificates* must complete the whole of their arithmetical, chart, and other papers within eight hours, and Candidates for Home Trade Masters' Certificates within ten hours.

116. *Extra Masters' Certificates.*—The time allowed Candidates for examination for Extra Masters' Certificates of Competency to complete the whole of the problems and writings (including the Compass Syllabus and the correction of all errors and oversights) must not exceed twenty-six hours.

117. *Deviation of the Compass.*—A period not exceeding eleven hours will be allowed to Candidates for the completion of the whole of the examination in the Syllabus, including the correction of all errors and oversights in both the problems and writings.

118. Punctually at the expiration of the prescribed time all the papers should be called up, whether completed or not, and, if not completed, the Candidate will be declared to have failed, unless the Examiners see fit to lengthen the period in any special case. If, however, the period is lengthened in any case, the special circumstances of that case, and the reasons for lengthening the period, together with the time allowed, must be reported to the Marine Department by the Examiners, in the column for "remarks" on the Form Exn. 14. It should be noted that the periods prescribed in the foregoing paragraphs are not intended to include the time occupied by the *viva voce* part of the examination.

119. It is anticipated that but few of the Candidates for Certificates of Competency for any of the foregoing grades will require the whole of the time herein allowed for completing their Examination in Navigation; and ample time has been prescribed, so that the Candidates may perform their work in a careful, clear, and legible manner, and to the entire satisfaction of the Examiners.

Degree of Precision required in the Solution of the Problems.

120. In order to prevent any misapprehension as to the degree of precision required by the Marine Department Regulations in working out the various

problems in the Examinations for Masters' and Mates' Certificates, the attention of Examiners and Candidates is particularly directed to the following Instructions:—

- (a.) Candidates are expected to work out their answers to all problems within or not to exceed a margin of one mile of position from a correct result (e.g., in problems where the answer required is a latitude, longitude, or distance), excepting in finding the ship's position by "Sumner's" method, where a margin of $2\frac{1}{2}$ miles will be allowed.
- (b.) In such problems as the "Amplitude" and "Alt-Azimuth," where the bearings, deviations, &c., only are required, a margin of 2', or 3', from a correct result will be sufficiently accurate.
- (c.) In no problem is the Candidate for an "ordinary" Certificate required by the Regulations to correct for second differences in taking out the quantities from the Nautical Almanac.
- (d.) In solving the "Time Azimuth" problem an answer, not exceeding half a degree from the exact result will be sufficiently near. But in all cases the actual latitude, declination, and time used, together with the exact bearing (from the North or South) as given in the tables, must be clearly shown by the Candidate on his papers.
- (e.) In interpolating for the correct deviation to be applied in solving the Chart questions, Papers Exn. 9 C and Exn. 9 D it will usually be sufficiently near if the Candidate works throughout with the nearest degree of deviation taken from the "Deviation Card," and even in cases where the deviations may vary but little the nearest half degree used throughout will be sufficiently precise, and will at the same time prove whether the Candidate understands the method of arriving at the amount of, and applying, deviations. It is not necessary that the Candidate should waste his time in solving the course to odd minutes as is sometimes done.
- (f.) In calculating the correction to apply to the Soundings, Question 5 of Paper Exn. 9 D, the Candidate is not required to work out to the exact inch, as is sometimes done. It will be sufficiently near if he brings his answer within half a foot or so of a precise result.

It must be clearly understood in reading the foregoing Instructions that it is always provided the work of the Candidate is correct in principle.

Supplementary viva voce Examination on written Papers.

121. An intimation has been made to the Marine Department that an impression prevails, in regard to the examination of Masters and Mates, that so long as a Candidate can commit to paper correct answers to the various questions requiring written answers (e.g., Forms Exn. 4a, Exn. 7, Exn. 9a, Exn. 9c, Exn. 32, &c.), no matter how indicative the answers may be of their having been learnt off by rote only, the duty and responsibility of the Examiners are at an end, and that they have no power or authority to reject a Candidate should his written answers be correct.

122. Lest, therefore, such an impression should prevail, the Marine Department wish to point out

that Candidates for Certificates of Competency are not only expected to give correct written answers, which may merely be learnt off by rote, but they are expected to possess an intelligent knowledge of the various subjects prescribed in the Regulations, particularly as regards the important subject of the Deviation of the Compass.

123. The Marine Department is of opinion that this result may be easily attained by the Examiner putting a few *viva voce* questions to the Candidate as the papers are brought up for inspection, or at any subsequent time if more convenient. The oral questions (suggested by the printed questions and the answers given) to be such that the Examiner may satisfy himself that the Candidate possesses a real knowledge of what he has written, and to be confined strictly to the subjects of the printed questions. Should the Candidate then exhibit ignorance of the subjects, the Examiner (who is in a position to judge of the real knowledge the man before him possesses) should deal with him at his discretion, notwithstanding that the Candidate may have written all the answers correctly by rote.

124. When an Examiner finds it necessary to fail a Candidate in this *supplementary viva voce* test, a memorandum containing the particulars of the points on which the Candidate was ignorant, *i.e.*, the identical questions and the identical answers given, must in each case be attached to his examination papers, when forwarded in the usual course to the Marine Department, or the particulars may be set forth by the Examiner in the margins of the Candidate's papers in red ink.

125. If the Candidate passes he will receive the Form Exn. 16, which authorises the Superintendent of the Mercantile Marine Office to which it is addressed by the Examiner to issue the certificate to the Candidate, whose testimonials, &c., will be returned at the same time. It is therefore important that the port of destination of the Certificate should be the same on both the Form Exn. 16 and the Form Exn. 2. If circumstances should make any alteration necessary, the Examiner should see that it is made in both Forms, otherwise delay in the issue of the Certificate may be caused.

SPECIAL NOTICE TO CANDIDATES.

126. The attention of Candidates is specially called to the following Regulations:—

127. Candidates are required to appear at the examination room punctually at the time appointed by the Examiners.

128. Candidates are prohibited from bringing into the examination room books, paper, or memoranda of any kind whatever. The slightest infringement of this regulation will subject the offender to all the penalties of failure, and he will not be allowed to present himself for re-examination for a period of three months.

129. In the event of any Candidate being detected in defacing, blotting, writing in, or otherwise injuring any book or books belonging to the Marine Department, the papers of such Candidate will be detained until the book or books so defaced be replaced by him. He will not, however, be at liberty to remove the damaged book, which will still remain the property of the Marine Department.

130. In the event of any Candidate being discovered referring to any book or memoranda, copying from another, or affording any assistance, or giving any information to another, or communicating in any way with another, during the time of examination, or copying any part of the problems for the purpose of taking out of the examination rooms, he will subject himself to all the penalties

of a failure, and he will not be allowed to be examined for a period of six months.

131. No Candidate will be allowed to work out his problems on a slate or on waste paper.

132. No Candidate will be permitted to leave the room until he has given up the paper on which he is engaged.

133. Candidates will find it more convenient, both here and at sea, to correct the declination and other elements from the Nautical Almanac by the "hourly differences" which have been given in that work in order to facilitate such calculations; they will thereby render themselves independent of any proportional or logarithmic table for such purpose.

134. The corrections by inspection from tables given in some of the works on navigation will not be allowed (see Tables IX., XI., and XXI. in Norie's *Epitome*, &c.); every correction must appear on the papers of the Candidates.

135. Any Candidate who may be guilty of insolence to the Examiner or of other misconduct will render himself liable to the postponement of his examination, or, if he has passed, to the detention of his Certificate for such period as the Marine Department may direct.

MASTERS' AND MATES' VOLUNTARY EXAMINATIONS IN STEAM.

136. These examinations are limited to Masters and First or Only Mates who are possessed of or entitled to Certificates of Competency, and were provided for the purpose of giving them an opportunity of undergoing a voluntary examination as to their practical knowledge of the use and working of the steam-engine.

137. Any Master or Mate desiring to be examined in Steam must deliver to the Superintendent of the Mercantile Marine Office a statement in writing to that effect, upon the Form of Application (Exn. 2), and the applicant's Certificate of Competency must be delivered to the Superintendent along with his statement. If he is about to pass an examination for a Certificate of Competency at the same time, the applications should be sent in together.

138. A fee of one pound must be paid by the applicant for the examination *in Steam*, and the Superintendent of the Mercantile Marine Office will thereupon inform him of the time and place at which he is to attend to be examined, and the examination will then and there proceed in the same manner as the other examinations. If the applicant fails, and has given in his Certificate, it will be at once returned to him.

139. If the applicant passes, the Report (Exn. 14) will be sent to the Marine Department, with the Certificate of Competency and the Form (Exn. 2), and the words "*Passed in Steam*," with the date and place of examination, will then be entered on the Certificate and its counterpart, and the Certificate will be sent to the Superintendent of the Mercantile Marine Office of the port named in the Application (Exn. 2) to be delivered to the applicant in the usual manner.

140. If the applicant fails he may not present himself for re-examination until the expiration of three months from the date of failure.

141. The examination is for the most part *viva voce*, and extends to a general knowledge of the practical use and working of the steam-engine, and of the various valves, fittings, and pieces of machinery connected with it. Intricate theoretical questions on calculations of horse-power or areas of cylinders and valves, or any of the more difficult questions which appertain to steam-engines

and boilers, will not be asked. The examination will, in fact, be confined to what a Master of a steam-vessel may be called upon to perform in the case of the death, incapacity, or delinquency of the engineer.

142. Examiners are to be careful in their examinations to satisfy themselves that applicants really do know the names and uses of the various parts of engines and boilers, and their connecting pipes, valves, cocks, &c. Practical knowledge, as distinguished from theories, abstruse calculations, and book learning, is to be the test of the applicant's fitness to have his Certificate indorsed.

143. The Examiner should arrange to conduct part of the examination in the engine-room of a steamship, unless from circumstances he finds it impossible to do so; and if an opportunity offer the applicant should be permitted, under the guidance of the Examiner, to start and stop the engine of some vessel which may have her steam up.

144. The Examiner, in sending in his report of examinations of Masters and Mates in steam, should state where the examination has been held.

145. Candidates will be required to give written answers to sixteen out of twenty questions taken from a book of *Elementary Questions* published for the Marine Department. These questions will be altered from time to time without notice. The twenty questions are not to be difficult, theoretical, or book questions, but are to be such as any man of ordinary capacity ought to answer who has any "*practical knowledge of the use and working of the steam-engine.*"

146. These questions, with the Candidate's answers, should be sent to the Marine Department, with the reports, after each examination.

147. These answers will also assist in enabling the Marine Department to decide any question that may hereafter arise in cases where it is alleged that applicants have been improperly passed, or improperly rejected.

148. The Examiners will be careful that if any Candidate refers to any book, or paper, or memorandum, or obtains information from another Candidate during the examination, he will be treated as having failed, will forfeit his fee, and will not be allowed to be re-examined for a period of three months.

149. The Examiners will report in the case of failure the nature of the question or questions that decided the failure, or the point in the management of the engine in which the Candidate was deficient.

150. There is nothing in the Regulations requiring that applicants for the voluntary examination shall have served on board steamships; all that is required is that they shall have a "practical knowledge." Examiners will, of course, not fail to appreciate the fact, when passing applicants, that practical knowledge is best gained in the engine-room; and the examination of an officer who does not produce official evidence of service in steamships, and of experience of engines, must necessarily be more searching than in the case of one who produces evidence of such service and experience.

Rules for the Examination of Masters for Steamships plying within restricted Limits.

151. *General.*—Candidates for examination must make a proper application on a form which will be supplied on application at any Customhouse. This application, accompanied with the necessary testimonials, must be lodged at the Customhouse for delivery to the Examiners. Certificates procured on false information will be cancelled.

152. All Candidates for Certificates must pass the examination in colours.

153. *Master.*—A Master of a steamer plying within restricted limits 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 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. He must understand the rules of the road as regards both steamers and sailing vessels, their regulation lights, and fog and sound signals, International Code of Signals, harbour regulations, and the colonial bar and tidal signals.

154. *Fees.*—The fee to be paid by the applicants for examination is One Pound.

NOTE.—Time served in steamers plying within restricted limits does not count as service at sea for the purpose of obtaining a Certificate of Competency for a sea-going ship.

