

how to stow and secure the anchors, and how to erect and secure sheers; that he can read and write well, and understands arithmetic (first four rules); and that he is perfectly competent to fill the station of a Boatswain.

2. The examination for the rank of Boatswain is to be held in the presence of a Captain or Commander by a Navigating Officer, and three Chief or other Boatswains or Gunners or Torpedo Gunners (in the proportion, when convenient, of two Boatswains to one Gunner or Torpedo Gunner).

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3. When convenient to the Service, but as soon as possible after obtaining his acting warrant, a Boatswain is to go through the course of Gunnery and Torpedo instruction prescribed by Art. 809*a*, and must pass the necessary examination. Should the exigencies of the Service permit, he may further go through the Torpedo course mentioned therein.

330. Officers who receive acting warrants as Gunner, Torpedo Gunner, or Boatswain, must pass the examination in signalling required for Qualified Signallman previous to confirmation as Warrant Officer; and a certificate of their having passed, signed by the officer in charge of signals, who is to conduct the examination, and by the Commanding Officer of the ship in which the examination is held, is to be forwarded to the Admiralty when application is made for their confirmation.

Gunner and
Boatswain—
signalling.

2. Special facilities are to be afforded to all candidates for these warrants, and to Acting Gunners, Acting Torpedo Gunners, and Acting Boatswains, by the Commanding Officers of Ships in which they are serving, to enable them to acquire the requisite knowledge of signalling.

331. FOR SIGNAL BOATSWAIN.—The candidate, if qualified, must produce his certificate of service, ability, and conduct, and proof of his age. He must be able to read and write well, to have a good knowledge of the first four rules of arithmetic, simple and compound; and a fair knowledge of proportion, and of vulgar and decimal fractions. The examination will comprise the following subjects:—

Signal
Boatswain.
(See Article
262.)
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No.	Subjects.	Maximum Marks.
1	Practical Signalling, Flags, Morse, Heliograph, Flashing, &c.	150
2	Telegraphy	50
3	Knowledge of Manœuvring Ships, Fleet Tactics, &c.	100
4	Knowledge of Signal Books, Instructions, &c.	100
5	Organisation of Fleets, and knowledge of the special duties of the Signal Department.	100
6	Officer of the Watch questions, Rule of Road, Lights, &c.	100
	Total	600

must present himself for re-examination within six months of the date of such rejection.

4. The subjects of the final examination at the Dockyard shall be—knowledge of how wood, iron, and steel masts and yards are constructed; how to fish masts and yards of wood, steel, or iron in a ready and efficient manner; ability to calculate the proper proportions for making masts and yards from rough spars; ability to describe the manner in which the two thicknesses of sheathing in composite or Iron-sheathed Ships are secured to the frames or plating, and the manner in which a wood deck is secured to iron beams, stringer plates, or iron deck; knowledge of how the keel, stem, stern post, and rudders of iron ships are formed, and how the stem and stern posts are secured to the keel; how the stern tube is formed; how the bulkheads are secured to the ship's side, and how they are stiffened; how water-tight doors and sluice-valves are formed and worked; how iron beams are secured to the Ship's side; ability to describe the transverse and longitudinal framing of a ship, and the formation of the double bottom; ability to show how iron plates are united to one another, and to the iron frames; to describe the method of securing the armour to the ship, and to describe the pumping arrangements in ships with or without a double bottom, also knowledge of the ventilating arrangements generally fitted in Her Majesty's Ships.

333. The Carpenter of a Ship, whether a Chief Carpenter, or Carpenter, or a Carpenter's Mate in charge of the duties, before she is passed into the Fleet Reserve, or if subsequently detailed for duty in her, before she is put into commission, will be examined by the Dockyard Officers as to his having a thoroughly competent knowledge of such details of the Ship as are placed in his charge, such as the construction of the Ship, water-tight doors, hatches, sluices, the system of flooding and ventilating, and the pumping arrangements, and will be granted a Certificate in the form prescribed.

2. Should any such Carpenter or Carpenter's Mate who is required to obtain the Certificate die or be discharged, his successor is to undergo the same examination after sufficient time has been allowed him to prepare for it.

3. Should he not have had sufficient time to prepare before leaving England, or should he be appointed abroad, then under the directions of the Commander-in-Chief or Senior Officer present, he is to be examined by the Carpenter of the Senior Ship present, assisted by another competent Carpenter, in the presence of his Captain or some other Officer not below the rank of Lieutenant.

4. The Certificates are in all cases to be in duplicate, one copy being for the Candidate, the other being forwarded by the Commander-in-Chief to the Admiralty.

Artificer
Engineer.

333a. 1. Examinations of Chief and other Engine-room Artificers who are qualified by age and service for promotion to Warrant rank will be held annually on the first Monday in September.

2. Candidates are to forward their applications to be examined, to the Commander-in-Chief, through their Commanding Officers, at least one month before the day of examination. The Admiralty is to be informed as early as possible of the number of candidates.

3. The examination will be held at the Dockyard Reserve Office or Dockyard School, under the supervision of the Captain of the Dockyard Reserve, assisted by a suitable Engineer Officer, and on Foreign Stations by such suitable Officers as the Commander-in-Chief may appoint.

4. Examination papers will be prepared at the Admiralty and forwarded under sealed cover to the Commander-in-Chief. The seals will be broken by the Officer conducting the examination in the presence of the Candidates, and on the conclusion of the examination the worked papers will be sealed and forwarded to the Admiralty for examination.

5. The set papers will consist of practical questions in Arithmetic (including Vulgar and Decimal Fractions) the Mensuration of Surfaces and Solids, Steam and Steam Engine, the combustion of fuel, the construction and working of the propelling and auxiliary machinery and boilers as fitted on board H.M. Ships, and the method of keeping Engineers' Store Accounts and the Engine-room Register.

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6. The Candidates will be informed whether they are considered to have qualified or not, and, if successful, a notation is to be made on their Parchment Certificates—'Passed for Artificer Engineers'—and in the Half-yearly Report (S. 189) on Engine-room Artificers, in which it should be stated whether those Artificers who have qualified for Warrant rank are recommended for promotion."