

APPENDIX II.—MEMORANDUM *re* EXAMINATIONS FOR ENGINEERS.

There are three classes of certificates:—First, second and third.

Qualification as to age.—A candidate for any grade must be at least 18 years of age, and, if required by an examiner, produce a certificate to that effect from his parents or guardian, or some reputable person.

A candidate for the third or lowest grade must have served as fireman or engineman, or both, for a period of at least 12 months.

For the second grade, the candidate must have served in connexion with engines and boilers for a term of not less than 2 years.

For the first grade, the candidate must be a holder of a second or third-class certificate, and have had at least 2 years' practice in making or repairing engines.

In all cases the certificates of employment must be satisfactory to the examiner.

In the case of any examination, should the candidate not secure enough marks to reach a higher grade, he can obtain a lower-grade certificate, provided that he has secured enough marks for to entitle him to such lower-grade certificate.

The examination will be conducted by means of written answers to written questions, and be supplemented by *viva-voce* examination, if deemed necessary. The questions for the three grades will be on one paper, and a specified number will be taken by the candidates for each grade, as deemed proper by the Board.

In any examination, the candidate must secure at least 50 per cent. of the number of marks allotted to the questions selected by him in order to receive a certificate.

The local examiner will, upon application, furnish a form as to age, employment, etc., to be filled up and returned to him at least 20 days before the date of the examination.

APPENDIX III.—ENGINEERS' EXAMINATION.—MEMORANDUM FOR CANDIDATES.

Applicants for a third-class certificate will take the papers A and B.

Applicants for a second class and who do not already hold a third class will take the papers A, B, C, D and G, but if they have a third class, C, D and G will be sufficient to secure a second class.

Applicants for a first class who do not already hold a second class will take the papers C, D, E, F, G and H, but if they have a second class, E, F and H will be sufficient to secure a first class.

Applicants for the third and second class must secure at least 55 per cent. of the number of marks allotted for each question.

Applicants for the first class must secure 75 per cent.

Paper A.—Boiler Questions.—Third Class.

1. What would be your first duty on taking charge of boilers?
2. Which needs the most care and constant attention, the engine or the boiler?
3. Why so?
4. Into what two general classes may boilers be divided?
5. Describe an internally fired boiler?
6. How many gauge-cocks should be used, and how should they be placed?
7. How high should the water be carried?
8. Suppose that, owing to a break-down of the pump or of the injector, or any other cause, the water should get so low as to disappear in the glass gauge and lowest gauge-cock, and you had no means at hand with which to get more water into the boiler, what would you do. Would it be advisable to raise the safety-valve?