

MINISTRY OF TRANSPORT AND COMMUNICATIONS

OO SI (I) BRANCH

Rules Relating to the Examination of Second Class Engineer's certificate of competency (Steam, Motor and Combined Steam and Motor.)

Yangon, dated the 6th January 1968.

[Amendment : 16.05.1970, 18.06.1989, 24.09.1992]

No. 166.-In exercise of the power conferred by Section 21 of the Myanmar Merchant Shipping Act, the Chairman of the Revolutionary Council of the Union of Myanmar makes the following rules for the examination of Second Class Engineer's certificate of competency.

CHAPTER I

MISCELLANEOUS

1. These rules may be called **the Rules relating to Examination of Second Class Engineer's Certificate of Competency (Steam, Motor and Combined Steam and Motor).**

2. In these rules-

"Appendix" means appendix to these rules; "Form" means form attached to these rules.

CHAPTER II

GENERAL

3. **Examination of Foreigners.**-No Foreigner may be examined for the Second Class Engineer's Certificate of Competency.

4. **Certificate of Competency.**-Three kinds of certificate of competency are granted by the Revolutionary Government of the Union of Myanmar;

(i) **Steam Certificate of Competency.**- qualifying the holders to serve as engineers in the grades certified in steam-ships.

(ii) **Motor Certificate of Competency.**-qualifying the holders to serve as engineers in the grades certified in motor ships, i.e., ships propelled by diesel (internal combustion) engines.

- (iii) **Combine Steam and Motor Certificate of Competency.**-qualifying the holders to serve as engineers in the grades certified in both steam and motor ships.

<Amendment 18.06.1989>

5. **Endorsement of Certificates.**-Holders of Second Class Engineer's Certificates of Competency, Steam or Motor, will, after serving the necessary period of qualifying sea time in the other type of ship and passing the endorsement examination in the same class as for the certificate which they hold, be furnished with a Combined Steam and Motor Certificate, qualifying them to serve in either type of ship.
6. **Enquiries.**-All enquiries regarding examinations should be dealt with in the same manner prescribed in Rule 45. The point on which Information is sought should be clearly stated.
7. **Misrepresentation.**- Candidates who represent themselves as having served a longer period of sea service than actually performed on board the vessel render themselves liable to prosecution.
8. **Knowledge of Myanmar and English Languages.**-Candidates must prove to the satisfaction of the Examiners that they can speak and write Myanmar and English Languages sufficiently well to perform duties required of them on board a Myanmar vessel at home and abroad.
- <Amendment 18.06.1989>
9. **Pre-sea Grading.**-Candidates may apply to be interviewed to find out whether their workshop training service satisfies the conditions set out in Rule 11, and thus may be graded as Class I or II as shown in the form EXN.2.

CHAPTER III

QUALIFICATIONS REQUIRED FOR THE SECOND CLASS ENGINEER'S

CERTIFICATE OF COMPETENCY

10. A Candidate for a Second Class Engineer's Certificate of Competency must:-
- (a) be not less than 21 years of age (excepting those trained under courses specified in rule 13 who may attempt Part A at an earlier age);
 - (b) satisfy one or other of the requirements as regards workshop service or other training set out in Rules 11 to 13, subject to the provisions as to compensatory sea service set out in Rule 16, and
 - (c) have performed the requisite sea service set out in Rule 17. He will be required to pass the examination as set out in Rule 55.

No workshop training or time devoted to apprenticeship before the age of 15 years can be accepted.

A Candidate for the endorsement of a certificate must have performed the extra sea service set out in Rule 18 and will be required to pass the examination as set out in rule 57.

Workshop Service

11. **Service as Apprentice Engineer or Journeyman.**-Except as provided for in Rules 12 and 13, a candidate must have performed satisfactory service for not less than 4 years as apprentice engineer or journeyman on work suitable for the training of a marine engineer in the manufacture or maintenance of machinery. Not less than 9 months of this workshop service required should have been devoted to fitting, erecting or repairing machinery of a suitable size or description (e.g., work on marine propelling machinery, substantial auxiliary machinery of a type fitted in ships, or on motive power machinery which has a similar value in the training of marine engineers) either in the works or outside; the remaining period may have been spent on work of this nature or on other suitable work, subject to a time allowance for each type of work, examples of which are specified below.

Metal turning	...	...	Full time up to a maximum of
			2 years.
Brass finishing	...	...	Full time up to a maximum of
			1 year.
Boiler making or repairing of			Full time up to a maximum of
boilers.			1 year.
Pattern making, planning			Full time up to a maximum of
slotting .			1 year.
Shaping and milling		...	Full time up to a maximum of
			1 year.

Tool Room	...	...	Full time up to a maximum of
			1 year.
Approved scheme of training			Full time up to a maximum of
in the use of hand and small			1 year.
machine tools.			
Smith work	...	...	Full time up to a maximum of
			6 months.
Coppersmith work		...	Full time up to a maximum of
			6 months.
Welding	...	...	Full time up to a maximum of
			6 months.
Work in drawing office as			Full time up to 1 year.
Draughtsman or engineer engaged on			When more than 1 year has been
arrangement, detail or design.			spent in the drawing office only half
			the additional time will count.
Electrical work of a substantial nature.			Full time up to a maximum of
			18 months.
Instrument and distant control gear, fitting.			Full time up to a maximum of
			6 months.

12. **Full-time Technical College or University Courses.**- Candidates who have satisfactorily completed a full-time course of study of at least the standard of a university degree in Engineering will be required to serve for not less than 24 months in workshops on work suitable for training of a marine engineer as described in Rule 11 or otherwise to the satisfaction of the Government. Not less than six consecutive months of this period should have been devoted to fitting, erecting or repairing machinery of a suitable size as required in that Rule.
13. **Mercantile Marine Engineering Training Scheme.**- Candidates usually accepted under this scheme will follow a five-year course consisting of (a) 2 years at an approved technical school studying an approved engineering course and (b) 3 years practical training at approved workshops with additional evening studies.
14. **Testimonials.**-All candidates will be required to produce testimonials as to their workshop service. These testimonials must be signed by the responsible Officials and must testify to the candidate's conduct and ability and state the kind of work on which he was engaged and the period of time spent in each branch, e.g., fitting, erecting, turning, machine work, etc. Testimonials will be returned to candidates when the examination is completed.
- A specimen copy of the form of testimonial recommended is shown in Appendix B. This form of testimonial is not applicable in the case of apprentices trained under one or other of the schemes set out in Rule 13.
15. **Schools outside the Union of Myanmar.**-Time spent in technical training establishments in foreign countries will not be accepted except under special circumstances.

<Amendment 18.06.1989>

16. **Compensatory Services.**-Where candidates perform workshop service for the period of time prescribed in Rule 11 or Rule 12 deficiencies in any of the types of service, which will be assessed in each case by the Examiner, must be made up by further workshop service of a suitable character or by compensatory service on regular watch or on day work at sea.
- Compensatory sea service must be performed either (a) on day work as engineer on board foreign-going or home-trade steamships of not less than 66 nominal horse-power and or motor-ships of not less than 373 brake horse-power, or (b) on regular watch on such ships. Time so spent on foreign-going ships will be accepted as having two-thirds of the value of suitable workshop service and on home-trade

ships as having four-ninths of that value. No day work at sea performed before the age of 20 will be accepted.

B.Sea Services

17. Candidates for a Second Class Certificate of Competency must, in addition to the above requirements, have completed the following period of sea service:-

- (a) For a Steam Certificate, 21 months, of which at least 9 months must have been spent on the boilers and main propelling machinery of a steamship. This period of at most 9 months must have included at least 6 months' service on the boilers and 6 months' service on the main propelling machinery, but service on these two may have been simultaneous. The remaining twelve months (or balance of twelve months) may have been spent on the boilers of a steamship, or on the main propelling machinery of a steam or motor ship, or on suitable auxiliaries of a steam or motor ship as in Rule 23 or on day work as in Rule 19 (a).
- (b) For a Motor Certificate, 21 Months, of which at least 6 months must have been spent on the main propelling machinery of a motor ship. The remaining 15 months (or balance of 15 months) may have been spent on the main propelling machinery of a steam or motor ship, or on suitable auxiliaries of a steam or motor ship as stated in Rule 23, or to the extent of not more, than 6 months on the boilers of a steam ship, or on day work as stated in Rule 19 (a).
- (c) For A COMBINED STEAM AND MOTOR CERTIFICATE, 24 MONTHS, of which at least:
 - (i) 9 months must have been spent on the boilers and main propelling machinery of a steamship. This period must have included at least 6 months' service on the boilers and 6 months' service on the main propelling machinery, but the service on the boilers and main propelling machinery may have been simultaneous, and
 - (ii) 6 months' must have been spent on the main propelling machinery of a motor-ship.The remaining 9 months (or balance of 9 months) may have been spent on boilers of a steamship or on the main propelling machinery of a steam or motor ship or on suitable auxiliaries of a steam or motor ship as in Rule 23, or on day work as in Rule 19 (a).

18. Candidates for the endorsement of a Second Class Certificate of Competency must have completed:-

- (a) for the MOTOR ENDORSEMENT of a Steam Certificate, a further period of 3 months additional to that required for Certificate held, provided that not less than 6 months' service in all shall have been service on the main propelling machinery of a motor-ship.

The Government may issue a temporary permit to enable a holder of a Steam Certificate to complete the necessary sea service in motor-ships to qualify for examination for a Motor Endorsement. Such permits are valid for a period of 12 months' actual sea service, and holders are expected to obtain their endorsement within that period.

- (b) for the Steam Endorsement of a Motor Certificate, a further period of 6 months additional to that required for the Certificate held, provided that not less than 9 months' service in all shall have been service on the boilers and main propelling machinery of a steamship.

This period of at least 9 months must have included at least 6 months' service on the boilers and 6 months' service on the main propelling machinery, but the service on the boiler and on the main propelling machinery may have been simultaneous.

19. Service required under Rule 17 and 18 must have been performed in foreign-going steamships of not less than 66 nominal horse-power and/or motor-ships of not less than 373 brake-horse power, as an engineer at sea on regular watch i.e., on watch for not less than eight out of each twenty-four hours' service claimed, except that:-

- (a) day work, by which is meant engineering work at sea other than that performed on regular watch, will be counted at half-rate with a maximum allowance of 6 months towards the qualifying period of sea service, provided that the work has been carried out within the engine or boiler spaces of a steam or motor ship at sea;
- (b) the conditions under which service performed in ships other than the foreign-going ships is allowed to count are set out in Rules 24 to 29.

20. **Remission.**-Candidates who have passed part A of the examination for a Second Class Certificate or who have obtained a certificate, diploma or degree recognised by the Government as conferring full or partial exemption for part A of a Second Class Certificate of competency (as shown in Rules 53 and 54) may be granted a remission of qualifying sea service not exceeding 3 months as follows:-

- (i) those who pass or gain exemption before starting qualifying sea service-3 months.
- (ii) those who pass or gain exemption before completing 9 months' qualifying sea service -2 months.

- (iii) those who pass or gain exemption before completing 15 months' qualifying sea service –one month.

GENERAL PROVISIONS AS TO ELIGIBILITY

21. Sea Service means service on Articles as engineer. When part or the whole of the qualifying sea service has been performed in ships which for considerable periods have not been at sea, a statement or certificate from the owners of the ship must be produced showing the proportion of time actually spent at sea. If this time amounts to not less than two-thirds of the service required to qualify for the examination, the service will be accepted in full, but when the actual service at sea falls below this proportion, the deficiency must be made up by additional service actually spent at sea.
22. Service in ships cannot be accepted as qualifying when a watch-keeping engineer is, as part of his regular duties, required to do work not usually performed by a watch-keeping engineer in the Merchant Navy.
23. **Service on auxiliary machinery.**—Time served on auxiliary machinery run in conjunction with the main propelling machinery (i.e., on auxiliaries which are essential to the running of the main propelling machinery and/or boilers) will, subject to the conditions as regards the minimum service on boilers and main engines, be allowed to count in full towards the qualifying period of sea service. Time served on suitable auxiliaries run independently of the main propelling machinery will be allowed to count at half rate, provided the minimum service on boilers and main engines has been served.
24. **Home-Trade Ships.**—Service in home-trade ships will be allowed to count at two-thirds rate, provided that the class of service and the horse-power of the ship render the service acceptable in all other respects.
25. **Sea Service in ships trading entirely abroad.**— Service in ships trading entirely abroad will be accepted as equivalent to service in foreign-going ships, provided that the distance between ports visited during the course of the voyage is at least 500 miles. If the distance is less than 500 miles, the service will be accepted as equivalent only to service in the home-trade, i.e., it will be allowed to count at two-thirds rate.
26. **Lake or river service.**—Service as watch-keeping engineer in lake or river vessels will be accepted under the following conditions for a Steam or motor Certificate, or a Combined Steam and motor Certificate, and will be counted at half rate (i.e., two months of lake or river service will be regarded as equivalent to one month foreign going sea service) provided that, in the case of a candidate for a Second Class Certificate, the service has been performed in lake or river steam vessels of not less than 66 nominal horse-power

and/or motor vessels of not less than 373 brake-horse power, and the candidate has had, in addition to his lake or river service, at least 3 months qualifying service at sea in a foreign-going ship or the equivalent service in the home trade.

27. Service in tugs, dredgers, fishing vessels, pilot vessels or cable ships.

(a) Service as engineer in sea-going tugs, dredgers or fishing vessels, and the pilot vessels when on their station or when going to or returning from their station, will be accepted towards the qualifying period of sea service at half rate.

(b) Service as engineer in cable ships will be accepted provided that the propelling machinery is in full use and developing not less than half power. Qualifying sea service may be reckoned as one and a half times the actual period of service under the conditions stated.

28. Candidates for Second Class Certificates may perform all their qualifying sea service on regular watch in sea-going tugs, dredgers, fishing vessels, pilot vessels or cable ships of not less than 66 nominal horsepower, if steam or 373 brake-horse power, if motor.

29. **Service in yachts.**-Service as watch-keeping engineer at sea performed in yachts of the horse-power referred to in Rule 19 will be accepted at two-thirds rate, provided the service satisfies the requirements set out in that Rule and the candidate's name is entered on the ship's Articles with his rank shown as engineer.

30. **Testimonials.**- Every candidate must produce testimonials in respect of the qualifying period of his service signed, in each case, by the Chief Engineer under whom his service has been performed, stating his actual rank on watch, the number of engineers simultaneously on watch on the boilers and/or the main propelling machinery, and the nature of the duties performed by him. When the candidate is a Chief Engineer, he should produce testimonials signed by the Engineer Superintendent, or by the Managing Owner or Secretary of the Company. It is desirable that the whole of the candidate's sea service should be covered by testimonials certifying to his sobriety, experience, ability and general good conduct.

31. It is desirable that testimonials signed by Chief Engineers should be endorsed by the Engineer Superintendent or by the Master or other representative of the Owner. Testimonials signed only by the Company's Superintendent or other officials will not, as a rule, be regarded as sufficient.

32. A specimen copy of the form of testimonial recommended is shown in Appendix C. Testimonials will be returned to candidates when the examination is completed.

33. **Physical defects.**- When a candidate is somewhat hard of hearing or suffers from any physical defect of such a nature as might interfere with the proper performance of his duties as an engineer on watch, the signatories of his testimonials should state whether such defect did in fact interfere in any way with the efficient discharge of the candidate's duties.
34. **Verification of Sea Service.**- Service which cannot be verified by proper entries in the Articles of Agreement of the ships in which the candidate has served cannot be counted. In all cases, the candidate's name must have been duly entered on the ship's Articles as engineer in the rank in which he actually served.
35. As discharges and testimonials may have to be verified from the records kept at the Mercantile Marine Department, they must be handed in, together with the form of application, not less than one week before the date of the examination which the candidate desires to attend. In the absence of necessary verification, the candidate cannot be examined.
36. Where, as in the case of service of engineers in foreign ships the length of service cannot be verified from the records kept at the Mercantile Marine Department, the testimonial of sea service must be confirmed by recognised authority or some responsible person having personal knowledge of the facts required to be established.
37. **Calculation of Service.**- The candidate's service, as shown on his discharges, will be reckoned by the calendar month, i.e., the time included between any given day in any month and the preceding day of the following month, both inclusive. The number of complete months from the commencement of the period, ascertained in this way, should be computed, after which the number of odd days should be counted. The day on which the agreement commences, as well as that on which it terminates, should both be included, and all odd days added together and reckoned at 30 to the month.
38. **Penalty for misconduct.**-Candidates who have neglected to join their ships after having signed Articles, or who have deserted their ships after having joined, or who have been found guilty of gross misconduct, will be required to produce satisfactory proofs of two years' subsequent service and good conduct at sea, unless the Government, after having investigated the matter, should see fit to reduce the time.

CHAPTER IV

ADMISSION TO EXAMINATIONS AND AWARD OF CERTIFICATES

39. **Application for examination.**-Candidates who are qualified to take the examination for a Certificate of Competency should fill up a form of application (Exm. 3) and pay the appropriate fee as prescribed in Rule 44 at the Mercantile Marine Department, signing the declaration on the form of application in the presence of the Superintendent. The form, properly filled in, together with the candidate's certificate of apprenticeship, testimonials, discharges, etc., should be lodged with the Superintendent at least one week before the day of examination. A candidate may, however, if he prefers, submit his application and papers by post to the Examiner of Engineer. He should remit the fee at the same time. If a candidate adopts this course, he will be required to sign his declaration in the presence of the Examiner of Engineers at the opening of the examination. Candidates will be informed as soon as possible whether or not their applications have been accepted; if they are accepted, candidates will be supplied with the copy of the rules to be observed during the examination.
40. **Proof of Citizenship.**-Every candidate for a certificate of competency will be required to produce proof of citizenship of the Union. Proof of citizenship of the Union will, in ordinary circumstances involve the production of birth certificate or of a certificate of citizenship. Failing this the applicant should furnish all possible documentary evidence of citizenship or of the birth and citizenship of parents. If necessary the case should be referred to the Government for consideration.
41. **Age.**-Should any doubt exist as to the age of a candidate, he will be required to produce a birth certificate or any reliable evidence.
42. **Penalty for offering gratuity.**- If a candidate offers a gratuity to any officer, he will not be allowed to be examined for twelve months. This penalty is additional to any penalty to which the candidate may be liable under the criminal law.
43. **Examination of Myanmar Naval Personnel or staff of the Government.**- Engineer Officers, Officers of the Engineering Specialisation, Artificer Engineers, Chief Engine Room Artificers, Engine Room Artificers, Chief Mechanics and Mechanics who have served or are serving in the Myanmar Navy may be examined for certificate of competency on the same conditions as Engineers in the Merchant Navy. Applications to be examined should be made in accordance with Rule 39, except that naval officers should furnish a statement of service together with testimonials in respect of all sea-going appointments and of the last active appointment. Ratings should furnish their Naval Service Certificates. Each case should be verified by the Department of the Vice-Chief of Staff, Defence Services (Navy).

<Amendment 18.06.1989>

44. **Fees.**-A candidate for examination will be required to pay the following fee on each occasion on which he applies for an examination either for a certificate of competency or for the endorsement of a certificate of competency:

Second Class Examination for Steam or Motor or Combined Steam and Motor.

	K
(i) Upon an application to sit the full examination at one time.	400
(ii) Upon an application either for Part A or Part B or a portion of either Part or exemption from all of Part A.	200
(iii) The endorsement (Steam or Motor) examination	... 200
(iv) Upon an application to sit for the examination for Third Class Engineer's Certificate of Competency.	150
(v) Upon an application for a Permit or dispensation	... 100

45. A person enquiring as to his eligibility for examination will be required to pay the appropriate fee before any step is taken to enquire into his service or to test his qualifications, etc. If a candidate or prospective candidate is found not to be qualified, the fee will either be returned to him or placed to his credit until he is qualified.

46. **Issue of Certificates.**- When the candidate has successfully completed all parts of his examination, he will receive a form authorising the Principal Officer, Mercantile Marine Department, Yangon, to issue the certificate. A candidate who has not successfully completed all parts of his examination will receive a record of his examination results on Form Exn. 5. This form must be produced to the Examiner of Engineers when a candidate next present himself for examination.

47. **Service found to be insufficient.**- If, after the candidate has passed the examination, it is discovered on further investigation that his services are insufficient to entitle him to receive a certificate, the certificate

will not be granted until the candidate has performed the amount of service in which he was deficient, and has been re-examined, unless the Government sees fit to dispense with the re-examination.

48. **Copy of lost certificate.**- An applicant for a certified copy of a lost certificate, should fill in a form of Exn.12, giving necessary particulars, and hand it to the Principal Officer, Mercantile Marine Department, paying at the same time the appropriate fee. A declaration as to the circumstances in which the certificate was lost must be made by the applicant before the Principal Officer. No fee is chargeable if the applicant can prove that the certificate was lost through ship wreck or fire.
49. **Re-examination.**- Ordinarily, a candidate may present himself for re-examination at any time after one month has elapsed since his previous attempt, but if he fails three times in Part A or three times in Part B within any period of three months, he will be debarred from re-examination for a period, depending on circumstances, of up to three months or exceptionally up to six months.
50. **Penalties for failure in examination.**- It is evident that ignorance of those subjects which form a vital part of a marine engineer's daily work (e.g., questions on manipulation and reading of water-gauge, the danger of fire and explosion in steam and motor vessels, etc.) can easily cause acts or omissions which would seriously endanger a ship. In particular, candidates should be very familiar with the water-gauge. A failure in one of these subjects, either in Engineering Knowledge paper or the Oral test in Part B of the examination will be regarded as failure in practical knowledge, and any candidate so failing will not be allowed to present himself for re-examination until he can produce proofs of further service at sea in a qualifying capacity. The period of the further service which will be required will be assessed in each individual case by the Examiner, but will not exceed six months.
51. Should a candidate fail through ignorance of fundamental principles, or on account of general defectiveness in the examination, he will not be allowed to present himself for re-examination until a period of time to be fixed by the Examiner has elapsed. Usually such period will not exceed three months, but in the case of subsequent failure on account of general defectiveness, the penalty may, in exceptional circumstances, be increased to a maximum of six months.

CHAPTER V

EXAMINATIONS AND EXEMPTIONS

52. **Place and day of examination.**-The examinations will be held in Yangon commencing on the third Monday of each month or at three month intervals. The time-table of the examinations are given in Appendix D.
53. **Exemptions.**-The examinations are divided into two parts as indicated in Rule 55 and candidates who have attended approved courses of instruction during their apprenticeship and have obtained certificates showing that they have passed the appropriate examination at the termination of the course will be granted exemption from the whole or part of Part A as shown in Rules 56 and 59.
54. **Approved Courses.**-The Government will recognise university degree in engineering provided that candidates who submit such degree produce evidence that the course of study has satisfied the Government as to its suitability. Candidates will similarly be allowed either complete or partial exemption from Part A of the Government examinations if they satisfy the Government that they have obtained suitable degree in appropriate subjects.
- It should be noted that no exemption will be granted in respect of Paper (IV) of Part A except under Rule 59.
55. **Examination for Second Class Certificate.**-The syllabuses for examinations are given in Appendix A. The examination is divided into two Parts as follows:

PART A.

- (i) Applied Mechanics (One paper of three hours).
- (ii) Heat and Heat Engines (One paper of three hours).
- (iii) Mathematics (One paper of three hours).
- (iv) Drawing (One paper of six hours).

PART B.

- (i) (a) Electrotechnology (One paper of three hours).
- (b) Elementary Naval Architecture (One paper of three hours).
- (ii) (a) Engineering Knowledge (two papers each of three hours and a third paper of three hours is also set for Combined Steam and Motor candidates).

(b) Oral.

56. Candidates may be exempted from Part A or some portion of it and may take the examination in separate parts as follows:-

- (a) A candidate who has attended an approved course of instructions as set out in Rules 13, 53 and 54, covering not less than two of the four subjects included in Part A, and has obtained a certificate stating that he has passed the appropriate examination at the termination of the courses, obtaining not less than 50 per cent of the full marks for the individual subjects referred, will be granted exemption from the subjects in Part A covered by the certificate.
- (b) A candidate may present himself for the whole of Part A or if exempted under clause (a) from certain subjects of the examination, for the remaining subject or subjects at any time after he has completed the necessary workshop service or in the case of candidates trained under the scheme described in Rule 13, as soon as he has complied with the requirements of the scheme.
- (c) A candidate who has not been exempted under clause (a) from Part A or part of it, and who, when taking Part A of the examination, passes in one subject only, must sit for the whole part on re-examination. If he passes in two or three subjects, he will not be required to take those subjects again and may present himself for re-examination in the remaining subject or subjects.
- (d) A candidate may take Part B or that part of it from which he is not exempted at any time after he has completed the necessary workshop and sea service, provided he also takes at the same time the whole of part A of the examination or such subjects, if any, in that Part, in which he has not already passed or from which he has not been exempted under clause (a).
- (e) A candidate will not be given a 'Pass' in Part B or in either Section of Part B unless he completes Part A at the same time as Part B or has previously completed it or has been exempted from it.
- (f) A candidate who when taking Part B passes in Section (i) (Electrotechnology and Elementary Naval Architecture) but fails in Section, (ii) (Engineering Knowledge and Oral) will be given a pass in Section (i) and may sit for re-examination in Section (ii).
- (g) A candidate who when taking Part B passes in Section (ii) but fails in Section (i), will be given a pass in Section (ii), and may sit for re-examination in Section (i).

- (h) A candidate who when taking Part B passes in Section (i) (Electrotechnology and Elementary Naval Architecture and Ship Construction) and Section(ii) (a), (Engineering knowledge) will be given a pass in Section (i) and Section (ii) (a), and may sit for re-examination in Section (ii) (b) (oral) only.

<Amendment 24.09.1992>

57. Examination for endorsement of second class certificate.-The examination consists of:-

- (a) One written paper of three hours in Engineering Knowledge,
- (b) Oral,

The syllabuses for these examinations are given in the sections of Appendix A relating to these subjects.

58. Marks required for a pass.- Candidates will be expected to obtain a minimum number of marks on each subject in the written examinations and not less than one-half of the total number of marks to secure pass. In the oral examination a somewhat higher standard will be required. The result of the examination will be communicated to the candidate by the Examiner.

59. Candidates who have successfully completed Mercantile Marine Training Scheme will be entitled to exemption from Part A examination on subject to subject basis.

In each case the marks obtained for each subject must not be less than 50 percent.

In the case of paper IV of Part A examination it is required that the candidate would submit at least 24 drawings of marine machinery and equipment which must be completed during his evening studies.

These must be verified by the instructor concerned.

60. Partial passes.- Partial passes in examinations for Second Class Engineer's Certificate of Competency obtained in other countries before the date of coming into effect of these rules may be accepted subject to conditions as set out in Rule 56.

61. Passes in Home Trade Engineer's Examination.-

- (1) Candidates who have passed Part A of the Home Trade Engineer's Examination conducted by the Mercantile Marine Department, will be required to take a paper on Mathematics only when appearing for Part A of the Second Class Engineer's Certificate of Competency Examinations.
- (2) Candidates who have passed Part A and Part B of Home Trade Engineer's Examination will be required to take a paper on Mathematics and the whole of Part B subjects when appearing for Part A and Part B of the Second Class Engineer's Certificate of Competency Examinations.

(3) Mathematics syllabus will be the same as that of the Second Class Mathematics as given in Appendix A with the following additions:-

- (a) Centroid, Energy, Newton's Laws of Motion, Equilibrium of floating bodies.
- (b) Water equivalent, Relationship between P.V.T. Air required for combustion.

<Amendment 16.05.1970>

By order,
THA GYAW,

Secretary to the Revolutionary Government of the Union of Myanmar,
Ministry of Transport and Communications.

----- Attachment -----

[ATTACH LIST 1] 01 APPENDIX A Syllabus for Second Class Examination FUNDAMENTAL KNOWLEDGE SUBJECTS. PART A

[ATTACH LIST 2] 02 APPENDIX B (1) Specimen Form of Testimonial for Workshop Service

[ATTACH LIST 3] 03 APPENDIX C (2) Specimen Form of Testimonial for Sea Service

[ATTACH LIST 4] 04 APPENDIX D Timetables of Examinations (SECOND CLASS)

[ATTACH LIST 5] 05 APPENDIX E ပြည်ထောင်စု မြန်မာနိုင်ငံတော်လွန်ရေးအစိုးရ THE REVOLUTIONARY GOVERNMENT OF THE UNION OF BURMA ဒုတိယတန်း ကျွမ်းကျင်မှုအင်ဂျင်နီယာ (မော်တော်သင်္ဘော) လက်မှတ် Certificate of Competency as Second Class Engineer of Motor Ship

[ATTACH LIST 6] 06 Exn. 1. APPLICATION FORMS FOR PRE-SEA GRADING

[ATTACH LIST 7] 07 MERCANTILE MARINE DEPARTMENT EXAMINATION OF ENGINEERS Pre-Sea Interview Grading Report

[ATTACH LIST 8] 08 APPLICATION FOR ENGINEERS' EXAMINATION Exn. 3

[ATTACH LIST 9] 09 Exn.4. Rules to be observed during the Examination of Engineers

[ATTACH LIST 10] 10 Exn. 5. OF ENGINEERS EXAMINATION or "Not Assessed."

[ATTACH LIST 11] 11 Exn.6. AUTHORITY TO DELIVER CERTIFICATE

[ATTACH LIST 12] 12 Exn. 8.

[ATTACH LIST 13] 13 EXAMINATION OF SECOND CLASS ENGINEERS Exn.9

[ATTACH LIST 14] 14 Exn. 10. To be Attached to appropriate Page in Answer Book EXAMINATION OF SECOND CLASS ENGINEERS

[ATTACH LIST 15] 15 Exn.12

[ATTACH LIST 16] 16 Exn. 13 NOTE.-A separate form must be used for each question paper. EXAMINATION OF ENGINEERS ASSESSMENT OF E. K.

[ATTACH LIST 17] 17 Exn. 14. APPLICATION FOR PERMIT

[ATTACH LIST 18] 18 Exn. 15. EXAMINATIONS

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