

Section III/1

Ref : M.S.(STCW) Rules 2014

Rule 35 : Marine Engineer Officer Class IV (Officer in charge of an engineering watch on ships powered by main propulsion machinery of 750 kW propulsion power or more) (OIC EW)

1. There are ten streams of entry in the Engine Department to qualify as Marine Engineer Officer Class IV of a sea-going ship (Officer in charge of an Engineering watch on ships having propulsion power of 750 kW or more). Flow Diagrams Nos. III/1 & III/2, leading to same, are given at the end of this Section.
2. Depending on the stream of entry, the approved education, training and sea-going service required by Rule 35(2)(b) and 35(2)(c) of Chapter III of M.S. (STCW) Rules 2014, is also shown in Flow Diagrams Nos. III/1 & III/2.
3. The Approved Training, Assessment and Record book required by Rule 35(2)(b) of Chapter III of M.S. (STCW) Rules 2014 is published by the Institute of Marine Engineers (India) in the format approved by the Directorate General of Shipping. The copy of the approved TAR book is retained in the Directorate and any amendments proposed are incorporated by IME(I) on their being approved by the Directorate.
4. Syllabuses of the approved pre-sea and post-sea education and training Courses for gaining necessary skills and underpinning knowledge as required by Rule 35(2)(d & e) of Chapter III of M.S. (STCW) Rules 2014, and applicable to all ten streams of entry as mentioned below, are given in **Appendix III/1A**.

Stream 7
of Flow
Diagram
III/1

4.1 A candidate shall have successfully completed: A four-year training Course conducted by The Marine Engineering Research Institute (MERI), Government of India, or its equivalent approved by the Chief Examiner of Engineers. **(For Course details refer Appendix III/1A)**

Streams 4
& 5 of
Flow
Diagram
III/1

4.2 A full-time Degree Course in Mechanical Engineering , Naval Architecture or Mechanical & Automation Engineering from a College or Institute approved by the All India Council for Technical Education (AICTE) or The Indian Institute of Technology; and

(a) Twelve months duly approved Marine Engineering Modular System of training, covering minimum 834 hours of class-room lectures, 75 hours of

laboratory training, and 889 hours of workshop training ; **(For Course details refer Appendix III/1A.4); or**

- (b) Twelve months duly approved Marine Engineering Modular System of training with eight months ashore and four months onboard; covering 700 hrs of class-room lectures, 90 hrs of laboratory, and 1170 hrs of onboard training. **(For Course details refer Appendix III/1A.5)**

Stream 3
of Flow
Diagram
III/1

- 4.3 A Full time Degree course in Electrical Engineering or Electrical and Electronics Engineering from a College or Institute approved by the All India Council for Technical Education ; **and**
Eighteen months duly approved Marine Engineering Modular System of training, covering minimum class-room lectures of 1536 hours, laboratory practice of 93 hours and workshop training of 889 hours ; **(For Course details refer Appendix III/1A.3)**

Stream 2
of Flow
Diagram
III/1

- 4.4 A full time Diploma Course in Mechanical Engineering or Shipbuilding Engineering or Electrical or Electrical & Electronics or Marine Engineering, awarded by an Institute or a College approved by the All India Council for Technical Education, or a State Council of Technical Education ; **and**
Twenty four months duly approved Marine Engineering Modular System of training covering minimum class-room lectures of 1615 hours, laboratory practice of 115 hours and workshop training of 1381 hours including afloat training ; **(For Course details refer Appendix III/1A.2)**

Streams
6 & 8 of
Flow
Diagram
III/1

- 4.5 Four years of duly approved Modular System of Marine Engineering Education & Training covering minimum class-room lectures of 2531 hours, laboratory practice of 460 hours and workshop training of 1509 hours, including afloat training in an approved Institute or Workshop.

Lateral entry to second year of the above four-year Course is permitted for candidates having passed a three-year full-time diploma Course in

mechanical/electrical/electrical electronics/automobile machine tool maintenance/ plant engineering/ production engineering and production technology/advance diploma in tool and di-making/ digital electronics/ electronics and tele-communication/ industrial electronics/ electronics production and maintenance/ instrumentation/ instrumentation and control.

Candidates belonging to this category are **not** exempted from Applied Mechanics and Heat Engines papers of Class IV and Class II Part A examinations. **(For Course details refer Appendix III/1A)**

4.6 Training at an approved Institute for one year as Phase I, nine months structured on board training as a Cadet on a vessel of not less than 750 kW propulsion power as Phase II, and nine months modular system of training at an approved Institute as Phase III, based on IMO Model Course 7.04 and meeting the standards of competence specified in Section A- III/1 of STCW Code (2010). **(For Course details refer Appendix III/1A.6)**

Stream 9 of
Flow
Diagrams
III/ 1 and
III/2

4.7 A training Course in Marine Engineering of not less than four years duration, **or**, having attained the rank of Mechanician III in the Indian Navy or in the Coast Guard establishments, being considered competent by the respective authorities to keep regular watch in a capacity not lower than first assistant to Engineer-in-charge of a watch on main and auxiliary machinery of sea-going Indian Naval or Coast Guard vessels of not less than 750 kW propulsion power **and**

Stream 1
of Flow
Diagram
III/1

Six months approved Modular Training Course and meet the standards of competence specified in Section A- III/1 of the STCW Code ;

4.8 A Full-time Degree Course in Mechanical Engineering in any Indian Navy Establishment approved by the All India Council for Technical Education, and a duly documented Engineering Watch at sea on Naval or Coast Guard Ships for at least twelve months, meeting the requirement of Section A- III/1 of STCW Code ;

Stream
10 of
Flow
Diagram
III/1

5. Eligibility criteria for all Pre sea Courses are given in Table III/1-3, at the end of this Section.

5A. Syllabuses of the Courses leading to the certification of OIC EW are given in **Appendix III/1B.**

6. Examination and Assessment for the Certificate of Competency as Marine Engineer Officer Class IV of a sea-going ship (OIC EW) will be held as follows :

6.1 Scrutiny of pre-sea and on-board structured training records by examination centres at the MMDs operating under the Assessment Centre at the Directorate General of Shipping, as per documentary evidence contained in the approved Training and Assessment Record book, or otherwise, towards assessment for eligibility to appear in Part 'A' of the examination

6.2 Satisfactory completion of Part 'A' of the examination and assessment in the functions and subjects shown in Table III/1-1 below :

TABLE III/1-1	
PART A	
Function : Marine Engineering at operational level.	
(Refer Appendix III/1B for Syllabus)	
1. Heat Engines	(one paper of max 3 hours)
2. Applied Mechanics	(one paper of max 3 hours)
3. Mathematics	(one paper of max 3 hours)
4. Engineering Drawing	(one paper of max 4 hours)

6.3 Satisfactory completion of four Basic Safety Training Courses before going to sea for the first time as shown in Table III/1-2 below.

Table III/1-2

Chapter VI Rule No.	STCW Reference	Name of Course Certificate of Proficiency	Course Details
57	A-VI/1-1	Personal Survival Techniques (PST)	Appendix VI/1A
57	A-VI/1-2	Fire Prevention and Fire Fighting (FP&FF)	Appendix VI/1B
57	A-VI/1-3	Elementary First Aid (EFA)	Appendix VI/1C
57	A-VI/1-4	Personal Safety and Social Responsibilities (PS&SR)	Appendix VI/1D
65	A-VI/6-2	Security Training for Seafarers with Designated Security Duties (STSDSD)	Appendix VI/1E

6.4 6 month approved sea service duly documented in an approved Training and Assessment Record book.

6.5 Satisfactory completion of Part 'B' of the written and oral examination and assessment Consisting of the following four Functions and their subjects there-under.

PART “B”

Function: Marine Engineering at operational level.

1. Marine Engineering Knowledge (General) (One paper of max. 3 hours)
 2. Marine Engineering Knowledge (Motor or Steam) (One paper of max. 3 hours)
- Oral Examination.

Function: Maintenance & Repair at operational level.

1. Marine Engineering Practice (one paper of max. 3 hours)
2. Oral Examination.

Function: Electrical, Electronics and Control Engineering at operational level.

1. Marine Electro technology (one paper of max. 3 hours)
2. Oral Examination.

Function : Controlling operation of ship and care for persons on board at operational level.

1. Ship Construction & Stability (one paper of max. 3 hours)
2. Ship's Safety & Environmental protection (one paper of max. 3 hours)
3. Oral Examination.

7. Exemption to a candidate from a part of the examination and assessment in full or from any subject will be in accordance with one of the Sub-clauses of clause number 13 of Section III/9 of this Chapter – these are also captured in the Flow Diagram III/1. However, for interpretation Clause 13 of Section III/9 shall be applied.