

TRAINING OF MARINE ENGINEER



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- Presently he is the Director (Academics) at Hindustan Institute of Maritime Training-(HIMT), Chennai. He joined HIMT in 1998 and is instrumental in designing and developing various post sea and competency courses. Presently he is handling classes for preparatory courses & Revalidation courses.

SYNOPSIS

Marine engineers to day come from different backgrounds, some are graduates, some are diploma holders and some come after Alternate Training Scheme course. Of course the periods of training for various levels vary. But still when they come after the minimum six months sea experience for Class IV, we could see a vast difference in their theoretical and practical knowledge. But they all face the same Class IV examination system and how long they take to obtain Their Certificate varies. Of course the efforts taken by the individual is a vital factor. The preparatory classes they undergo will definitely make a lot of difference. Majority of candidates feel that the course is a requirement for their preparation to face the examination.

When a sea going engineer comes for his examination after say six months his theory needs to be brushed up. When he sits in the class room listening to the lectures on various topics by faculties, he has an opportunity to clarify his doubts. On board hardly he has time to learn, due to work pressure, attitude of some seniors etc. During preparatory classes in the institute he can interact with the faculties freely and ask even basic questions. Candidates probably have exposure to only one type of vessel say a bulk carrier; tanker etc where as in the class room all types of ships will be discussed. So he at least gets to know about other type of ships also. Some candidates interact well, attentive during lectures and ask their doubts both during the course and even after. They contact the lecturers by e-mail and phone and clarify their last minute doubts even on the-examination day from different examination centers.

For brighter candidates preparatory classes are like revision. Oral questions, breakdown, maintenance of critical equipments and safe watch keeping procedures and emergency preparedness are also discussed in the class. So the candidates become more focused. We have noticed that the interacting candidates in the class pass their examination in less number of attempts. So preparatory classes are very much required. Even in countries like UK, Australia classes are conducted prior allowing candidates to write their examination.

Syllabus

More clarity is needed. For different levels say CI IV or CI II the syllabus should be more clearly defined. At CI IV level the syllabus should focus to safety, pollution prevention, machinery familiarization, operation, watch keeping requirements where as for CI II level in addition to the above the syllabus should cover performance evaluation of machineries, testing, and trouble shooting. For example SOLAS is given for both levels. For each level in SOLAS what points are to be covered should be defined. For example reference to centrifugal pumps for Class IV level the lesson plan can cover the principle of operation, starting procedures, problems like cavitations, dismantling and maintenance procedures etc where as for Class II we can add performance/characteristic curves, understanding the performance, parallel operations, double volute etc Often we see the same questions for both Courses. We can say that CI II candidate needs to give his answer in- depth for the same question compared to CI IV. But there is no guidance as to what level answer is expected from different level candidates. It is left to the person correcting the answer papers and the examiner taking orals.

Periods of Preparatory Classes for different Certificates of Competency

Present day three months for Cal IV can be extended to four months and present four month for CI II may be reduced to three months.

Because we find that the fundamentals are not that much clear for many CI IV candidates, so a longer duration at CI IV level and a shorter duration at CI II level will help.

CI II candidates have already under gone preparatory classes and they need to only upgrade to a higher level of learning, leaving out the basics and covering only any latest developments in marine machineries and IMO and other regulations.

Sea time requirements for each COC

We feel that the sea time requirement of six months at CI IV level is too less. Settling down in the ship first time will take time. He might not have come across any major repairs. So the sea time for appearing for CI IV may be increased to nine months For CI II it may be the remaining nine months or we can keep twelve months taking out three months from CI I requirements making it fifteen months. Exposure to shipboard maintenance only will make him confident. This cannot be taught in class rooms or simulators. So more exposure required at sea.

Exposures to dry-docking and major repairs will definitely make him a practical engineer. But many times we come across chief engineers not exposed to dry docking till they became a chief engineer.

The Examination System

Earlier written and orals were together making it necessary to appear for written again if he fails in orals. Presently the written and orals are kept separate. After all the examination system is only random sampling. We feel the same system can continue.

Even in the university, candidates appear for various subjects and reappear only in failed subjects. The present system of candidates passing in individual subjects and appearing in only failed subjects can continue.

Emphasis on academics as well as practical is essential. The ratio we feel should be 50:50. Unless concept is well understood trouble shooting becomes very difficult. The working of various machineries can be taught only in the class rooms say controls PLC, pneumatics, hydraulics etc. For the practical part simulator based training where problems can be simulated making the candidates doing trouble shooting will help. During the preparatory course practical courses like electrical familiarization, pneumatic and hydraulic courses can be included.

Present system of written examination is alright. There should be a good co-ordination between preparatory class faculty and the examiners. At least a quarterly meeting between them will help. The teaching faculty can fine tune their teaching skills so that candidates may be taught the right topics to the level expected by the oral examiner.

With reference to orals we find candidates preferring some examination centers.

Guidelines are there for conducting orals. But there again sometimes CI II questions are put to CI IV candidates. We suggest that an exhaustive oral question bank for both CI II and CI IV may be made so that examiners may keep their level of questions to the concerned course. We feel that external examiner in orals is required. But his questions to the candidates are also to be within the question bank. Two years back computer based oral examination idea was mooted in a meeting in DG shipping office. But it has never moved further. We feel that it is a good idea. Students can take the computer based objective test first, then orals by the examiners. We can allot 60% marks for CB Test and 40% for orals.

In the present system the candidates feel that in each MMD -Mumbai, Kolkata and Chennai different guidelines are being followed. Perhaps due to infrastructure facilities in some centers more candidates can appear for examination and their written results come out early. This makes the candidates rush to one center. In some centers orals can be given every month without waiting for written results, whereas in some centers this is not possible. Guidelines for booking examination are not being uniformly applied in all the centers. This has to be addressed and uniform guidelines to be followed in all MMDs both for examinations and for issuing Dangerous Cargo Endorsements.

Examiners also need to be aware of the latest changes with present technological developments in shipboard machineries, automation, PLC controls and electronics unless the examiner is updated he may not be able to put relevant questions to the candidates matching the present requirements. The present system of training and certification of marine engineers definitely requires a thorough overhaul so that in Inure qualitative engineers come out. The creamy layer opts out for other professions like IT etc, so the candidates opting out for merchant navy may not be very good. This we have to keep in mind when planning and training of marine engineers.

So the responsibility of making efficient marine engineers lies in the Pre-sea training institutes, Shipping companies, Institutes running preparatory classes and the Administration. A seminar of this nature will go a long way in achieving the objective of making efficient marine engineer.