

A REVIEW OF THE PRE SEA TRAINING PROGRAMMES IN THE GME AND DME STREAMS



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SYNOPSIS

Chidambaram Institute of Maritime Training (CIMEt) was established in 1997 by CSC Trust, a charitable educational trust, founded by Mr. K.Chidambaram, Managing Director, Chidambaram Ship care Pvt Ltd and Past President of the IMEI. CIMEt has been training marine engineers for the past 10 years. Currently CIMEt conducts the one-year postgraduate GME programmed and the two-year post diploma DME programmed. At the exit levels the two outputs are considered on par, except for the Diploma Engineers-having to clear the Class IV Part A exam conducted by the DGS. CIMEt has a long experience conducting these courses, currently the 22nd Batch of Graduate Engineers and the 6th batch of Diploma Engineers being under training. Prior to this from 1990 to 1997 Chidambaram Ship care was conducting Marine Engineer training under the approved marine workshop apprentice schemes, approved by DGS. Therefore we are looking at a core competence of seventeen years of Marine Engineer Training.

This paper will attempt to look at each of the above streams of training, comparing the experience we have gathered against the criteria indicated. The requirements of DG Shipping are very specific, and detailed in the TAR book and training manual and do not leave any room for interpretation or modification. This causes a handicap to the trainer in that he cannot deviate to enhance the students learning experience. Having compared the gist of our experience against the criteria, the paper will go on to recommend continuance of some of the practices as well as suggest modifications based on our experience, and feedback from the trainees as well as their employers. Finally the paper suggests ideas for closer interaction and co-operation between various MTT's, the IMEI, and the Administration to uplift the overall quality standard

Proportion of time in Class/ Lab / Workshop

The division of time for the GME course is good and over the years we have seen a number of cadets shaping up well during the training. Feedback after their first tenure on ship indicates the shipping companies are happy with them. We have structured the first semester to complete the theory classes as well as the basic skills training. Given this background the cadets are able to apply their knowledge during the second semester, which consists entirely of practical work, in the workshop and afloat training. The only modification one may seek is to have some topics such as Basic Metallurgy and Material Testing removed, as all of them have completed this during their B.E. Similarly the focus should be on the practical and application of knowledge, with less or no emphasis on design aspects and basic fundamentals.

However the DME programme leaves much to be desired. The table given below shows how the Diploma Engineer has only 15 years of formal education prior to his entry on board ships. Practically we see the students are very poor in fundamentals and lack the maturity required and often settle into the course only by the end of the first year.

Pre sea Programme	Programme duration	Entry Qualification	Total years of	Remarks academic study
4 yr BE Marine	4 years	10+2	$10+2 + 4 = 16$	Exempt from Class 4, part A
1yr GME	1 year	4 year BE(Mech)	$10 + 2 + 4 + 1 = 17$	Exempt from Cl. 4 part A
2 year DME	2 years	3 year Dip in Mech Engr	$10 + 3 + 2 = 15$	Has to appear for Cl. 4 part A

The Class IV Part A exam consists of 4 papers, Thermodynamics, Applied Mechanics, Mathematics and Engineering Drawing. Keeping Engineering drawing aside, for the cadets to clear these papers, they require the basics in science and mathematics of a +2 student, with additional inputs in thermodynamics and mechanics. Unfortunately most candidates who are admitted to the DME course are 10th Std pass with a Diploma. The present DME programme looks at trying to impart the knowledge picked up over 2 years (the -12 years) in a period of 600 hrs, out of which 260 hrs goes towards Engineering drawing.

Again with the Diploma level education being controlled at the state level (DOTE), the candidates all having high scores are sorely lacking in the basic sciences and mathematics. Hence at the MTI we are constrained to go back to the 10th STD level to build up the basics. Having had an easy time during the Diploma course, they are also less inclined to learn. At the intake level, we see wide variations in the levels of students with equivalent marks, coming from different parts of the country.

Depth of knowledge required at the pre sea level

Again the graduate engineers fare well, having completed a 4 year programme prior entry, their engineering fundamentals are fairly sound and because of their age they are of a more mature disposition. Almost all of the teaching required during the GME programme relates to practical marine equipment on board, and with the exception of the material testing module, probably no change is called for.

With the DME course, the Part A exam being a definite barrier at the end of the 2 year course, the tendency is for the cadet and the Institution to focus on the Part A subjects, in the process reducing the time and effort spent on the other subjects and practical training. When Shipping Companies come in for Campus

interviews, their reluctance to employ DME candidates is mostly because they cannot be slotted for a particular month to join a particular ship. This is because the trainee is yet to pass the Part A exam at the time of his passing out of the MTI. One solution might be to have the DME course split into two sections. During the first 12 to 18 months the candidate completes his basic training and his Part A subjects. He is then allowed to appear for the exam and must pass the same before he rejoins the college. The second part of the course will be similar to the GME course with a time period of 12 to 18 months, and on completion of the same as well as the STCW courses etc, he is then issued with the EXN 45. This would increase the training period to three years. This change also addresses the issue of DME candidates having only 15 yrs of formal education as discussed earlier

Syllabus for examination

Currently there is no exam specified for the course completion of the GME Course. However at CIMeT we conduct extensive and continuous evaluation. Our experience is that Indian students are very 'marks' conscious and any evaluation where the marks count, is taken seriously. The evaluation is very transparent and cadets have access to the marks right throughout the programme. We send out our evaluation to shipping companies when we call them for selections.

The part A exam syllabus appears to be satisfactory. In our opinion the engineering drawing subject and paper should be retained. We find the DME cadets are able to understand cut sections and make sectional drawings far better than the graduates, who no longer study engineering drawing the focus being on Auto cad etc.

Views son existing syllabus and time allotted

The one-year GME programme is well established and does not need much change. Sonic suggestions are:

Management Module

Within a matter of 2 to 3 years these engineers are likely to be stepping into the management cadre on board. We find there is no exposure to management concepts at all during the B.E and the GME programme. A two-week module on the same could be incorporated

Using the Case Study method:

Most of the course work Consists of understanding the construction, operation and maintenance of marine machinery and knowledge of relevant Legislation. Most decisions taken on board are never black and white, and call for choosing the best among several shades of grey. This capability could be well taught using small case incidents. Similar to the MBA method, several cases could be written based on true incidents and used as study material. We have tried this in a small way and the response very encouraging.

With respect to the DME programme, we believe the following suggestions implemented could improve the overall quality.

As suggested above split the programme into 2 parts, the first part looking after the Part A subjects. In fact the duration of this segment of the course could be extended, and the inputs required at the Class 2 Part A also covered.

On completion of this segment the candidate writes an exam with the Administration and clears the requirements of both exams. On his return to the second part of the course, he would follow the GME syllabus and be available for employment on completion

Suggestions for MTPs to improve

Faculty enhancement courses:

Most faculty teaching in maritime training Institutes (especially post sea faculty) have come into the teaching profession after sailing. Inputs from good teachers in academia can help improve the level of performance. The Institute of Marine Engineers could be a body to arrange such sessions periodically

Sharing of Industry best Practices:

Currently MTIs are being audited by at least three separate bodies, the respective Academic Council, the organization issuing the ISO Certificate, and the approved benchmarking doing the rating (CARS, CRISIL, ICRA). Each of these bodies could provide information on industry best practices they have seen and how MTIs can improve. Currently we are still working in a compliance culture, with a great deal of secrecy, and unwillingness to share.

Role for Institute of Marine Engineers (India):

IMEI being the professional learned society in the field of marine engineering should be the accreditation body for the marine engineer training programmes. Being a not for profit organization with all the credentials required for such a task it can avoid the multiplicity of inspections and go a long way in ensuring that the output from our marine engineer training institutions meets the requirements of their future employers.