

## INDUSTRY - INSTITUTE - INTERACTION THE FORBES MARSHALL AWARDS

\* KAMLESH PANDE

For over thirty five years, Forbess Marshall (FM), Pune has been involved, among other things, in spreading the knowledge and skills in the fields of steam engineering, control and instrumentation and energy conservation. A unique expertise and experience in terms of combined knowledge in these fields exist in FM. Apart from serving the industrial sector through the supply of quality products and systems, FM is also deeply involved Industry-institute interaction (III). In fact, in Pune region, FM has taken a lead by taking concrete steps in that direction.

As is well known, we (at FM) have been training teachers as well as students from different engineering colleges in our modern Training Centre which is equipped with the illustrative working models of various equipment associated with steam engineering and control instrumentation. Through our interaction with the University of Poona, we also prepared industrially relevant syllabi for a few subjects at undergraduate and postgraduate levels in mechanical engineering, and introduced modifications in the existing course contents to reflect the requirements of the industry. Not only

that, we even teach certain courses at the postgraduate programme in mechanical engineering and deliver talks for the benefit of final year students on selected advanced topics that are highly relevant to industry, but are not included in the regular syllabi. These topics include energy conservation, environmental degradation, packaged boilers, their control systems, valves, piping and ISO related issues, quite apart from this, we provide vacation training to both engineering and management students, and sponsor projects to engineering students from different disciplines.

All these years, our aim has been to help engineering students learn various industry - relevant issues/subjects, obtain good exposure to the industrial practices and develop the ability to tackle a given problem in totality, which is what a practising engineer is called upon to do. Keeping this in mind, in 1995 we instituted the Forbess Marshall (FM) Awards, each worth Rs. 10,000 to be given away every year to the group of final year engineering students successfully completing the most industrially relevant project. To start with, the awards have been instituted at College of

Engineering, Pune (COEP) and Vishwakarma Institute of Technology (VIT), Pune at B.E. (Mech.) level, and at Indian Institute of Technology (IIT), Bombay for M.Tech. programme related to energy aspects and Cmmn's College of Engineering for Women, Pune for Instrumentation and control related projects.

The awards consist of cash and technical books of students' choice, and are given away to the winning teams at specially arranged functions in respective institutes. The IIT award is given at the time of their convocation. During 1994-95, the COEP group won the award for their project on Design & Fabrication of Vibration Table, and the award for their project on Dynamic Rubber Testing Machine. The IIT award was given to an M. Tech. project on Heat Transfer in a Cooling Pond in Thermal Power Station. The 1996 awards have been bagged by the teams completing the projects on Car Stereo Vibration Testing (COEP), sponsored by Philips India, Pune, and Automotive Hydraulic Pipe-bending Machine (VIT), sponsored by Ravian Industries, Pune.

As for the mechanism of selection of the award-winning projects, the respective college authorities, in consultation with Forbes Marshall, first short-list five projects from amongst the thirty - thirty five from each of these colleges. A team of senior managers from FM then visit these colleges (or the actual sites of these projects) and critically examine each project in detail in line with a set of criteria already conveyed to the teachers and the students. Some of the important criteria pertain to the practical utility of the project to the sponsoring industry /

agency (if any), tangible benefits accrued, demonstration / presentation, team effort, design report and preliminary knowledge gained on how the sponsoring industry functions.

We have found that the award winning teams indeed do an excellent job in terms of need-finding, product design, fabrication, testing and data analysis, and also gather lot of information related to materials, cost and manufacturing. They find it both interesting and challenging to interact with the industry and to find out the 'why' of most of the things that they come across. More importantly, through their projects, they learn to make intelligent approximations and proceed to the next stage, face failures, take them in their stride and find out ways and means to succeed. They also learn to work together, assign responsibilities among themselves and integrate their efforts to achieve the end objective.

Through the FM Awards, we have provided the students a good incentive and ensured they 'stay' as close to the industry as possible. That surely adds tremendous value to their theoretical knowledge and enhances their acceptability by the industry. They also seem to have realized the distinct advantage of working on real life problems existing in the industry.

Forbes Marshall has thus shown what concrete actions can be taken with a view to intensifying the Industry-Institute-Interaction, rather than discussing the modalities and the 'how' of it. This is only the beginning at FM ! We are committed to take the III to the level it deserves.