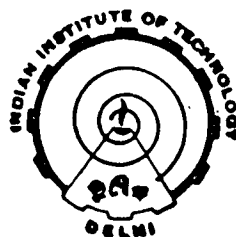


HUMAN RESOURCE DEVELOPMENT IN THE MIDST OF CHANGING TECHNOLOGIES IN INDIAN CEMENT INDUSTRY

By
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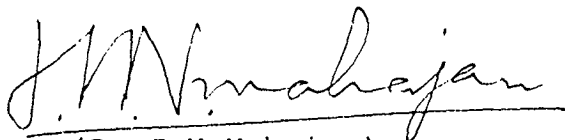
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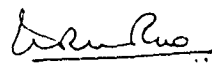
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CERTIFICATE

The thesis entitled "HUMAN RESOURCE DEVELOPMENT IN THE MIDST OF CHANGING TECHNOLOGIES IN INDIAN CEMENT INDUSTRY" being submitted by Mr. M.B. Patel to the Indian Institute of Technology, New Delhi, for the award of the degree of Doctor of Philosophy is a record of bonafide research work carried out by him. He has worked under our guidance and supervision, and has fulfilled the requirements for the submission of this thesis, which has attained the standard required for a Ph.D degree of the institute. The results presented in this thesis have not been submitted elsewhere for the award of any degree or diploma.



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ABSTRACT

Technological developments are taking place at a rapid rate in Indian cement industry. These developments have resulted in a new man-machine system in the industry. In order to facilitate proper functioning of this system, both the components of the man-machine system must be balanced.

Keeping this in view, study has initially examined whether human components adequately match the technical system in the cement industry. The qualitative as well as quantitative impact of these technological developments on human factors have been studied. The results reveal that the capabilities of personnel are not at par with the technological developments in the industry. It is also found that the quantitative requirements of human resources are reduced but at the same time industry looks for a larger proportion of skilled personnel.

Based on these findings, this study was taken up to develop a strategy for enhancing the human resource in the industry. For this purpose systematic training programmes have been planned to improve the functioning of a new man-machine system. A novel approach named the Three-Tier Matrix Technique has been developed for identifying the training needs at the plant level. A man-machine performance profile is also presented

to support this technique. A methodology for selecting appropriate tasks and fixing priorities to them for training programs are also developed. A training master plan which covers all the personnel and relevant courses for the training at plant level has been evolved. Finally, a linear programming based training model, which is useful to the management as a managerial tool has been developed for deciding the number of persons to be trained within the organisational constraints. The application of the model has been demonstrated through a case study in one cement plant.

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