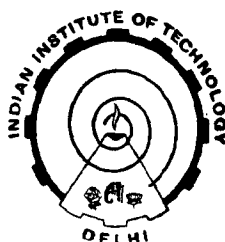


**MICROBIAL CONVERSION OF CELLULOSE
TO ETHANOL**

**BY
SUBIR KUNDU**

**THESIS SUBMITTED TO THE INDIAN INSTITUTE OF TECHNOLOGY, DELHI
FOR THE AWARD OF THE DEGREE OF
DOCTOR OF PHILOSOPHY**

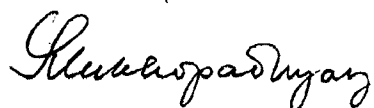


**BIOCHEMICAL ENGINEERING RESEARCH CENTRE
INDIAN INSTITUTE OF TECHNOLOGY, DELHI
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INDIA
MAY, 1983**

In Memory
of
My Beloved Grandmother

CERTIFICATE

This is to certify that the thesis entitled "Microbial Conversion of Cellulose to Ethanol" submitted by Shri Subir Kundu has been prepared under our supervision in conformity with the rules and regulations of the Indian Institute of Technology, Delhi. We further certify that the thesis has attained a standard required for Ph.D. Degree of the Institute. The research report and results presented in the thesis have not been submitted for any Degree in any other University.



(S.N. Mukhopadhyay)



(T.K. Ghose)

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Subir Kundu
(Subir Kundu)

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