

**Journal of the Indian Institute of Science  
Bangalore 560 012, India**

*Volume 76*

*January–February 1996*

*Number 1*

**Special Issue on Mechanical Engineering at IISc**

**Contents**

Foreword

**Material Science**

S. Seshan  
A. Guruprasad  
M. Prabha and  
A. Sudhakar

Fibre-reinforced metal matrix composites—a review 1

S. K. Biswas and  
A. Somi Reddy

Wear and seizure of aluminium–silicon-based IC engine component materials 15

**Solid Mechanics**

R. Narasimhan and  
A. K. Ghosal

Mixed-mode ductile fracture initiation 37

K. R. Y. Simha  
Rajeev Jain and  
K. Ramachandra

Bore optimization for rotation hollow shallow shell 59

**Fluid Mechanics**

Jaywant H. Arakeri and  
K. P. Achuth Rao

On radial film flow on a horizontal surface and the circular hydraulic jump 73

**Computer-Aided Design**

B. Gurumoorthy

Reverse engineering of solid models 93

**Robotics**

Ashitava Ghosal

Experiments and simulation of model-based controlled robots 109

**IISc Theses Abstracts** 125

**Book Reviews** 159