

CONTENTS

NOMENCLATURE	1
INTRODUCTION	6
CHAPTER - I	
AXISYMMETRIC DISTRIBUTION OF THERMAL STRESS IN A SEMI-INFINITE SOLID CONTAINING A PENNY-SHAPED CRACK.	
Paper 1 : Axisymmetric thermo-elastic problem for an externally cracked elastic solid I. Effect of a penny-shaped crack.	21
Paper 2 : Axisymmetric thermoelastic crack problem with a penny-shaped inclusion.	39
CHAPTER - II	
THERMAL STRESSES IN A LAYERED MEDIA:	
Paper 1 : Stress concentration in elastic double layered media due to thermal effect.	60
Paper 2 : Thermo - elastic stress distribution in three layered system.	74

CHAPTER - III

STRESSES DUE TO HEAT EXPOSURE ON THE ELASTIC BOUNDING SURFACE:

- Paper 1 : Thermal stress problem with cylindrical hole
in an infinite elastic medium. 87
- Paper 2 : Thermal stress problem with circular hole in
infinitely extended thin plate due to sudden
heating of the boundary. 97
- Paper 3 : Thermo - elastic stress Distribution in semi-
infinite solid with constant heat flow over a
circular area. 107

CHAPTER - IV

COUPLED THERMO-ELASTIC PROBLEM:

- Paper 1 : One dimensional coupled thermo-elastic
problem due to periodic heating in a semi-
infinite rod. 115
- Paper 2 : Coupled thermo-elastic problem on
temperature changes in a semi-infinite rod due
to impact at one end. 124
- Paper 3 : A coupled thermo-elastic problem of a half-
space due to thermal shock on the bounding
surface.

BIBLIOGRAPHY

133
145