

1. PREFACE

The present form of the revised thesis is based on the valuable comments of the honorable Examiner of the Thesis.

The earlier version of the thesis had some discrepancies as well as the deviation of the format from standard presentation.

The following changes have been incorporated in the present form of the Thesis.

- (i) The title of the thesis could not be changed due to the question of re-registration of the thesis.
- (ii) The standard format, as defined by the Examiner, has been applied to the present form of the thesis as far as possible.
- (iii) The literature survey has been made to include the recent works available to the author.
- (iv) The author is thankful to the honorable Examiner in pointing out the deficiency in the graphical representation of the numerical results in Chapter-I and Chapter-II with regard to the previous version of the Thesis. The comments helped much to identify the loopholes of the numerical results. The significant nonlinearity has been exhibited. In other problems also, recalculation and modification of the numerical results have been made. Also stress has been given on the nonlinearity aspect of the relevant problems.
- (v) The author is also indebted to the Examiner in pointing out the importance of a temperature distribution in practical fields. Sufficient care has been taken to overcome the deficiency with suitable assumption of the temperature field.
- (vi) The Author has employed his best efforts to modify the Thesis in the light of the suggestions within his ability.
- (vii) Undoubtedly the Author has not only improved his knowledge in course of revision of the Thesis work and at the same time he can now differentiate between "work" and "Research Work". It is due to the valuable review-comments and suggestions of the learned Examiner.

The present work though offers a little contribution to knowledge in the scientific world as a whole, yet it is hoped that it may open up a few small roads, if not avenues, for some young future research workers.