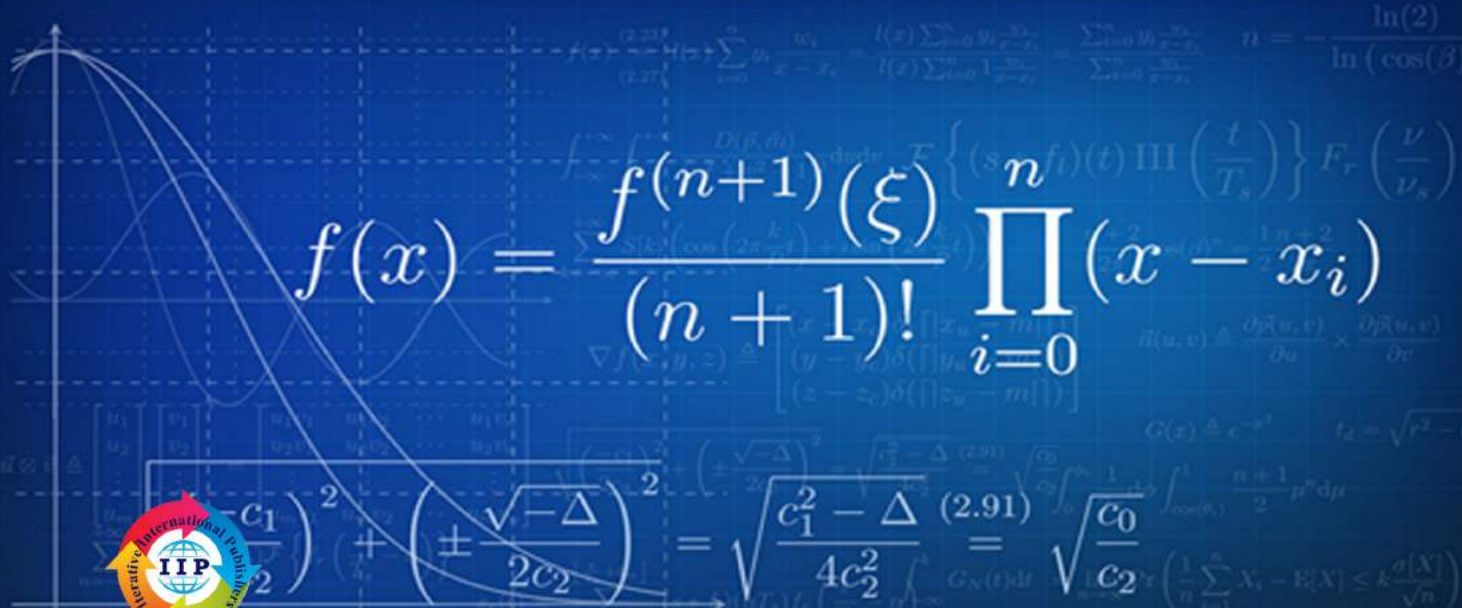


Thrilling
Pre-college Mathematics
(Problem Book)

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Play With
MATHEMATICS

For 10 + 2, JEE Main / Advanced
& other Competitive Examination


$$f(x) = \frac{f^{(n+1)}(\xi)}{(n+1)!} \prod_{i=0}^n (x - x_i)$$



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Ganesh K Chauhan

PLAY WITH MATHEMATICS

Thrilling
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By

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**Dedicated to
The Real Knowledge &
Way of Life of
Which my Students were
an Integral Part**

FOREWORD

A few years ago, I had an occasion to go through the Russian mathematics books Problem in Mathematics by V. Govorov, P. Dybov, N. Miroshin & S. Smirnova, Problems in Calculus by I. A. Moron, Elementary Mathematics by G. Dorfeev, M. Potapov & N. Rozov and Advanced Engineering Mathematics by Erwin Kreyszig. These unravels intricacies of the subject through a dialogue b/w teacher and student. I thoroughly enjoyed reading it. For me these seemed to be among the few books which teach a difficult subject through inquisition, and using programmed concept for practicing. After these books,

Ganesh K Chauhan's book on mathematics, Play with Mathematics is another such attempt. I have thoroughly appreciated it. It is clear that Chauhan Sir has spent considerable time in formulating the structure of the book. I think he has been successful in this attempt. This book can certainly be extremely useful for preparation of various competitive examinations.

Those who have followed Chauhan Sir's extreme hard-work have always enjoyed the outstanding contributions he has made in various research areas. He was an extremely methodical, sincere person as a student & has devoted himself to the task of educating young minds and inculcating scientific temper amongst them. I am sure that young minds who would like to play with mathematics in an appropriate manner will find this book extremely useful.

I must heartly congratulate Ganesh K Chauhan for the magnificent job he has done.

MD Sameer Khan B. Tech (CSE)

Preface

During my years as a mathematics teacher, I have developed a somewhat different methodology of presenting mathematics to the students. Play With Mathematics is a translation of this methodology into a textbook.

The motto underlying the book is mathematics is enjoyable.

The basic aim of mathematics teaching has been to let the student know and understand the principles and solving problems and equations of mathematics and their applications in real life.

I have tried my best to keep errors out of this book. I shall be grateful to the solvers who point out any errors or make other constructive suggestions.

Ganesh K Chauhan

Acknowledgement

The work on this book started in 2016. Since then, a large number of students, teachers and mathematics lovers have made valuable suggestions which I have incorporated in this work. It is not possible for me to acknowledge all of them individually. I take this opportunity to express my gratitude to them.

I thank my students who helped me in checking the answers. I am grateful to **MD Sabbir Khan** for helping me in preparing the rough sketches for the book. Finally, I thank all my students and friends for their support and encouragement.

Ganesh K Chauhan

Overview of this Book

Here is an overview on the organization of the book which will help you in using the book most effectively. The book contains 3 sections which are illustrated as follows:

SECTION 1: 11th Standard & Competitive Examination

SECTION 2: 12th Standard & Competitive Examination

SECTION 3: Thrilling questions for advanced competitive level

Examination

I hope you will enjoy Play with Mathematics.

Valuable suggestions from esteemed readers for the improvement of the text will be most welcome and highly appreciated.

Ganesh K Chauhan
(gkcbov@gmail.com)

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Ganesh K Chauhan is currently working as assistant professor in engineering college department of CIVIL. He completed B.Tech (CIVIL) from NSUT (formerly Ch. Brahm Prakash Government Engineering College) and M.Tech (Structural Engineering) from DCRUST. He is an Associate Member of IEI (INDIA). He has also been acknowledged as CHARTERED ENGINEER (INDIA).

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