

Mathematics CSIR/UGC NET-JRF

Previous Years Topic Wise Solved Questions

(2011 Onwards)

Third Edition

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Authors

Gaurav Mittal

IIT Roorkee

Kanika

IISER Mohali



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Branch Office: 216, Flat-GC, Green Park, Narendrapur, Kolkata, India

Tel: 011-23256188, 011-45130562, 9971676330, 9582248909

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Preface

This book contains solutions of around thousand questions from the last 15 year question papers of CSIR/UGC NET-JRF Mathematics exam. We have covered eight topics of pure mathematics. We recommend students to first read all the theory related to each subject for better understanding. We have also given some definitions and results which we have used in solving the questions so that students can understand each and every question properly without missing any single detail. Each solution is in a very detailed form. We hope that all the students will get benefit from this book.

From the very beginning of this decade, and even in the previous decades also, CSIR/UGC NET-JRF exam has been an important part of our higher education. This exam is now a compulsory prerequisite for getting a job in any college or university. Also from the research point of view, students must have qualified a national level exam for getting admission in any research institute. This book is a platform for the students to clarify all their doubts in any area of pure mathematics. This book covers all questions related to various subjects from last seven-year question papers. These papers almost cover every type of questions which can be asked from a particular topic. Not only NET exam, this will also help students to clear other national level exams and admission tests for Ph.D. in various institutes.

As students, we also faced many problems solving previous year question papers. We personally want that other students should not face these kinds of problems in the future. We tried to make the solutions as easy as possible for the students to understand. We are very much sure that this book will really help students. There are so many books available for understanding the theory but sometimes theory is not sufficient to clear our doubts. We need some applications for the understanding of theory. This book will provide plenty of those applications.

The first chapter covers all the problems from Linear algebra, with all the required preliminaries but students are assumed to know about the very basic definitions. Next chapter covers one of the most important subject of this exam, i.e., Real analysis, which covers a major part of this exam. Further, Complex analysis is covered in a very easy manner giving all the details of the results and definitions used. Chapter 4 covers Topology and Functional analysis. Chapter 5 solves all the problems of Abstract algebra with a very easy approach. Chapter 6 covers Number theory questions. Finally, the last chapter of this book again covers one of the most difficult topics from the perspective of students, i.e., Differential equations. We have given very approachable techniques to solve the questions related to this topic. We are very sure that after reading this book, questions from this topic will not further haunt the students.

We are not claiming that our solutions are the best ones, but definitely, they will help students increase their understanding. We also want to tell students that there are many ways of solving a particular question. We have tried to give the easiest possible approach for each solution, but students may find some other method easier.

At last, we want to say that no book is ever free from mistakes. We will be more than happy to receive suggestions, to know about the mistakes which helps in the betterment of book. Our contact email is

gmittal@ma.iitr.ac.in

Gaurav Mittal
Kanika