



**Ram Lal Anand College**

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Campus New Delhi-110021

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## About the College

**Ram Lal Anand College is a Co-Educational University of Delhi maintained college, fully funded by UGC (Govt. of India). The college offers 14 undergraduate Programmes for students of different streams including Humanities, Commerce and Science along with one Post Graduate Degree Program in Hindi. The college is a NAAC accredited college with a B++ Grade.**

## About the Department

**The Department of Microbiology at the college has been recently recognized as a Star College by the Department of Biotechnology (DBT), Govt. of India. It offers B.Sc. Honours degree program in Microbiology which is a prestigious and highly sought-after program. As part of new initiatives taken by college, the Department for Microbiology is committed to training of students in advanced and emerging fields, imparting new skills and knowledge for their future growth and employability. In the recent years, the department has organized many International and National seminars, workshops and certificate courses.**

## Why to join: Python, An asset in contemporary biology

The genome sequencing and powerful computational analysis revolution has empowered the biological science to solve complex biological problems in efficient, reproducible and swift mode. Experts from different stream of biological science (Microbiology, Zoology, Botany, Biochemistry, Bio medical Sciences, Plant breeding, Biotechnology etc) can take help from Genomics to reveal the structure, content and evolution of genomes and may apply that knowledge to further study the function and global properties of genome for the advancement of medicine and diagnostics.

In order to analyze and manipulate biological Data, in the form of DNA sequences, Protein Sequences and protein structure in research or jobs, it is essential to know a powerful programming language to perform day to day tasks. Industries require data Analyst, variant Analyst, data Scientist, NGS data analyst, who are going to analyze genome data or SNP data or NGS data or Microbiome data. The job profiles of these positions require programming experience as a must.

As per latest forecast this type of research market is expected to reach over 13 billion by the end of 2023. Hence, there will be high demand of workforce who is expert in Biology and can handle the data by writing some scripts. Therefore, joining this course on python programming language will certainly benefit biological science students.

Python is easy to use, easy to understand and have a vast library of routine tasks, which makes it easy for the beginners to write the scripts for data analysis and manipulation. This course will be a hands-on training program with writing and executing python scripts applicable in day to day tasks of biological data analysis workflow.

**Presents  
Online Certificate Course  
on  
Python in Biological Sciences**

**Start Date: 16<sup>th</sup> January, 2021  
Beginner friendly  
Requires Laptop/PC**

**Organized by  
Department of Microbiology  
Under  
DBT Star College Scheme**

## Resource Person



Dr. Kshipra Chauhan is the founder of EduBooster Research and Technology Consultancy. She is a diversified professional having 14+ years of R&D and Academic experience as Scientist, Research fellow and lecturer. She is a PhD in Biotechnology from National Institute of Malaria Research under the aegis of ICMR.

## Course Modules

- a. Introduction to Programming and python
- b. Data Structures (Variables, expression, statements)
- c. Text or string manipulation, DNA Data manipulation
- d. Conditional tests in DNA sequence handling
- e. Iterations and functions: sequence data analysis
- f. Lists, dictionaries and tuples: Biological sequence analysis
- g. GUI using Tkinter
- h. Problem solving with real time python script writing

## Course overview

This course will cover the algorithms for solving various biological problems and handful of programming challenges helping students to implement in Python. As it is a widely used programming language in scientific community this course will equip our students with more advanced computational skills which is needed in their future scientific career.

## Who should Attend

The course will be very useful for UG and PG life science students. Students who are in the final year of examination of their bachelor's degree program will be given preference

Course Structure: Each week will cover modules through online lectures and hands-on sessions. The course will also offer interactive sessions with the expert and exhaustive practice through assignments and quizzes.

Duration and Timings : 40 hours ; 2 hours every week (Saturday & Sunday); 3:00-5:00 pm

### Course Fees:

- Non-RLA students: 1000/- (to be paid online)
- Free for RLA students

### PATRON

**Dr. Rakesh Kumar Gupta, Principal**  
**Ram Lal Anand College**

### Organizing Committee

1. Dr. Prerna Diwan, Associate Professor & Coordinator, DBT Star College Scheme
2. Dr. Shalini Swami, Assistant Professor, Department of Microbiology

### Registration Link:

<https://docs.google.com/forms/d/e/1FAIpQLScFc5IjPITviOeOR3LzV5WwWDbObdYFqAjMZ92tUilWWIBQZQ/viewform?vc=0&c=0&w=1&flr=0>



**Last Date for registration and Payment of fees 15<sup>th</sup> January, 2021**

### Payment link:

<https://www.payumoney.com/customer/users/paymentOptions/#/0393F2FFFC8FA76E25095AF01FC24B6D/Payments1/2128>

**For further information, please contact:**

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