


NAGARJUNA GOVT. COLLEGE (A)






IIT BOMBAY SPOKEN TUTORIAL

ACADEMIC YEAR: 2019-20

Organized by



NODAL
TELANGANA SKILLS & KNOWLEDGE CENTRE
TS KC
Telangana Skills & Knowledge Centre





CREATING OPPORTUNITIES **DEVELOPING SKILLS** **UNLEASHING POTENTIAL**

NAGARJUNA GOVERNMENT COLLEGE (A)

Re-Accredited by NAAC with 'A' Grade
Affiliated to Mahatma Gandhi University

NALGONDA





**CERTIFICATE
COURSE**

The Spoken Tutorial project

- Self explanatory - uses simple language
- Audio-video - uses multisensory approach
- Small duration - has better retention
- Learner-centered - learn at your own pace
- Learning by doing - learn and practice simultaneously
- Empowerment - learn a new FOSS

Target group

- Undergraduates / Postgraduates
- Research scholars
- Teachers

Workshops

The Spoken Tutorial Project Team conducts work-shops on Biopython and other FOSS using spoken tutorials and gives certificates to those who pass an online test

For more details, please write to contact@spoken-tutorial.org

The Spoken Tutorial Project is funded by the National Mission on Education through Information and Communication Technology, Ministry of Human Resource Development, Government of India.

Contact Us

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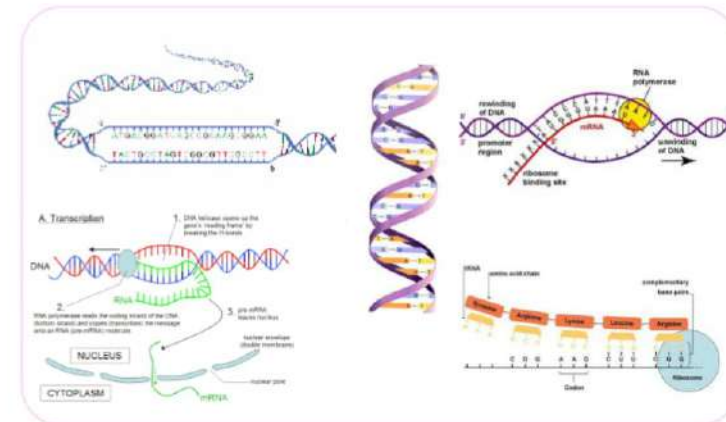
IIT Bombay

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Spoken Tutorial

BIOPYTHON



National Mission on Education through
Information and Communication Technology
(NMEICT)
www.sakshat.ac.in

An MHRD initiative

<http://spoken-tutorial.org>

Introduction:

- Biopython is a set of freely available Python tools for computational biology and bioinformatics.
- Biopython runs on many platforms (Windows, Mac, Linux and Unix).
- Source code is easily available under Biopython Licence. The Biopython web site <http://www.biopython.org> provides an online resource for modules, scripts and web links.

Features:

- It has tools for performing common operations on sequences, such as translation, transcription and weight calculations.
- It has ability to parse bioinformatics files into Python utilizable data structure.
- It supports the following formats: Blast output, Clustalw, FASTA, GenBank, PubMed and Medline, ExpASy files, SwissProt etc.
- Files in the supported formats can be iterated over record by record or indexed and accessed via a Dictionary interface

- Code to deal with popular online bioinformatics destinations such as:
 - NCBI – Blast, Entrez and PubMed services
 - ExpASy – SwissProt and Prosite entries, as well as Pros
- Interfaces to common bioinformatics programs such as:
 - Standalone Blast from NCBI
 - Clustalw alignment program
 - EMBOSS command line tools
- Code to perform classification of data using k Nearest Neighbors, Naive Bayes or Support Vector Machines.
- Code for dealing with alignments, including a standard way to create and deal with substitution matrices.
- Code making it easy to split up parallelizable tasks into separate processes.
- GUI based programs to do basic sequence manipulations, translations, BLASTing, etc.
- Extensive documentation and help with using the modules, online wiki documentation, the web site, and the mailing list.

- Integration with BioSQL, a sequence database schema also supported by the BioPerl and BioJava projects

Uses:

- Parse BLAST results (standalone and web).
- Run biology related programs (blastall, clustalw, EMBOSS).
- Deal with FASTA formatted files.
- Parse GenBank files.
- Parse PubMed, Medline and work with online resource.
- Parse Expasy, SCOP, Rebase, UniGene, SwissProt.
- Data classification (k Nearest Neighbors, Bayes, SVMs)
- Aligning sequences; CORBA interaction with Bioperl and BioJava
- SQL database storage through BioSQL; Neural Networks.
- Neural Networks; Genetic Algorithms
- Structural biology PDB.
- Create specialized substitution matrices.

NAGARJUNA GOVT. COLLEGE (A) NALGONDA
TELANGANA SKILLS & KNOWLEDGE CENTRE

Biopython Certificate Course

in collaboration with

IIT Bombay Spoken Tutorial

Report:

Telangana Skills & Knowledge Centre (TSKC) conducted a certificate course on Biopython from 01-03-2020. In this course 54 MBC, MZC II & III Year students were enrolled and successfully completed their course.

Course outcome:

Biopython is a set of freely available Python tools for computational biology and bioinformatics. It is very useful for performing common operations on sequences, such as translation, transcription and weight calculations. It has ability to parse bioinformatics files into Python utilizable data structure. By learning this course student can run biology related program (blastall, clustalw, EMBOSS).

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Date: 17-02-2020


NOTICE

All the B.Sc, B.Com & B.A students are hereby informed that, who are not registered in the IIT Bombay Spoken Tutorial for the Academic Year 2019-20, register immediately by scanning the QR Code. Last date for registration is 24-02-2020.



Note:

1. It is free of cost & remote learning training
2. After completion of the course you will get a certificate from IIT Bombay Spoken Tutorial
3. Course will be allotted and will intimate on 26-02-2020
4. Already registered student no need to register again


TSKC Co-Ordinator (Nodal)
N.G. College (A), NALGONDA

NAGARJUNA GOVT. COLLEGE(A) NALGONDA**TELANGANA SKILL & KNOWLEDGE CENTRE****IIT BOMBAY SPOKEN TUTORIAL- COURSE ALLOTMENT****Biopython-Student Enrollment**

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NAGARJUNA GOVT. COLLEGE (A) NALGONDA TELANGANA SKILLS & KNOWLEDGE CENTRE


Date: 26-02-2020

NOTICE

All the below mentioned groups of IIT Bombay Spoken Tutorial registered students hereby informed that, TSKC allotted your course for the Academic year 2019-20 are shown below. In this regard instructed that complete your course before 31-03-2020.

Sl.No	Group	Year	Allotted Course	Duration
1	MBC	III	Biopython	1 Month
2	MZC	III		
3	MBC	II		
4	MZC	II		
5	MSCS	II	C and Cpp	
6	MPCS	II		
7	BCOM CA	III		
8	BZC	III	CellDesigner	
9	BZG	III		
10	BBC	III		
11	BBC	II		
12	BTZC	II	GeoGebra 5.04	
13	MPC	II		
14	MPC	III		
15	MCIC	III		
16	MPG	III		
17	MPG	II		
18	MPCS	III	HTML	

Note: Any doubts contact @ TSKC Lab, NG College(A) Nalgonda


TSKC Co-Ordinator (Nodal)
N.G. College (A), NALGONDA



1 Online / Offline content

1. The online content of Spoken Tutorials can be accessed from :
<http://spoken-tutorial.org/tutorial-search/>
2. You can also download the Spoken Tutorials for offline learning from :
<http://spoken-tutorial.org/cdcontent/>
3. From this link download the FOSS categories in the language you wish to learn.
4. The Spoken Tutorial content will be downloaded as a zip file on your machine.
5. Extract the contents of the zip file & access them.

2 The procedure to practise

1. You have been given a set of spoken tutorials and files.
2. You will typically do one tutorial at a time.
3. You may listen to a spoken tutorial and reproduce all the commands shown in the video.
4. If you find it difficult to do the above, you may consider listening to the whole tutorial once and then practise during the second hearing.

3 Biopython

1. Click on "Select FOSS" or "All FOSS Categories" drop-down and choose "Biopython".
2. Click on "Select Language" or "All Languages" drop-down and choose the language (English, Hindi, Marathi ...) in which you wish to learn.
3. Click on "Submit" button.
4. You will see a list of tutorials based on your selection.
5. Start with the first tutorial in the displayed list.

4 First tutorial: Introduction to Biopython

1. Locate the topic "Introduction to Biopython" and click on it.

2. To view the tutorial, click on the Play icon which is located in the player.
3. The **Pre-requisite** will be visible below the player (only for Online contents).
4. **Outline, Assignments, Code Files and Slides** are available below the player.
5. Adjust the size of the browser in such a way that you are able to practice in parallel.

4.1 Open IPython console in Linux OS

- (a) The tutorials are explained on the Linux OS.
- (b) It will be easy for the Linux users to follow, as instructed on the tutorial.
- (c) Open the **Terminal** by pressing CTRL+ALT+T keys together.
- (d) In the **Terminal** window, type `ipython`
- (e) This will open the **IPython prompt**.
- (f) Now, you can type your commands at the **IPython prompt**.

4.2 Open IPython console in Windows

- (a) To practise these tutorials on Windows OS, please follow these instructions.
- (b) `Start>>All Programs>>IPython`

4.3 Common Instructions to practise

- (a) Create a folder on the "Desktop" with your "Name-RollNo-Component".
(Eg. "vin-04-Biopython").
- (b) Give a unique name to the files you save, so as to recognize it next time.
(Eg. "Practice-1-vin").
- (c) Remember to save all your work in your folder.
- (d) This will ensure that your files don't get over-written by someone else.
- (e) Save your work from time to time, instead of saving it at the end of the task.

4.4 Common instructions for Assignments

- (a) Attempt the **Assignments** as instructed in the tutorial.
- (b) Save your work in your folder.

4.5 Common instructions to use Code files

- (a) Click on the link "Code files" located below the player and save it in your folder.

- (b) Extract the downloaded zip file.
- (c) You will see all the code/source files used in the particular tutorial.
- (d) Use these files as per the instructions given in the particular tutorial.

6. Play-pause-practise the whole tutorial.
7. Once the tutorial is complete, choose the next tutorial from the playlist which is located on the right side or below the player.
8. Follow all the above instructions, till you complete all the tutorials in the series.



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Certificate of Participation

This is to certify that **GADDAM GANESH** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

March 1st 2020

Prof. Kannan M Moudgalya
IIT Bombay



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This is to certify that **G.PREETHI G.PREETHI** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

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This is to certify that **PERIKA ANJALI** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

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This is to certify that **ADAVALLY MADHULIKA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

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This is to certify that **ADEEBA FATHIMA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

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This is to certify that **BASHIPANGU VAMSHI** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

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This is to certify that **BATTULA PRAVEEN** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

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This is to certify that **BHUKYA TRIVENI** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

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This is to certify that **BONAGIRI HARITHA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

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This is to certify that **BUKKA PRAVALIKA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

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This is to certify that **CHINTHA SREEVANI** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

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This is to certify that **GANGANABOINA MANUSHA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

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This is to certify that **JINUKALA NITHIN** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

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This is to certify that **KOMMU SWAMY** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

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This is to certify that **PULI SHIVA KUMAR** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

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This is to certify that **UDUTHA SWAMY** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

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This is to certify that **VADDEPALLY PAVITHRA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

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This is to certify that **KAMMAMPATI RAMYA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

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This is to certify that **AITHARAJU DIVYA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

March 1st 2020

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Certificate of Participation

This is to certify that **AMATUL RAHMAN HUMNA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **CHIRMAMONLA BHAVANI** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **DASOJU PUSHPANJALI** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **DHANAVATH SHASHIKALA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **DHARA SAI KUMAR** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **MD HAMIDA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **KANCHEKOMMULA AJAY KUMAR** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **KARAMTOTHU CHARAN NAIK** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **KORUPOLU JYOTHI** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **MARIPEDDI SHILPA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **MAZIYA FATHEMA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **NAGARJUNA SHIVA KUMAR** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **PALADUGU SHWETHA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **RAMYA RAMYA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **SILUVERU SANDHYA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **NARSING ARCHANA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **SOMAVARAPU HARIKA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **TOOBA FIRDOUS** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **GADAGOTTI VARSHINI** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **KHAIRUNISA BEGUM** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **KONDETI PAVAN** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **POLENI SAI SAI KUMAR** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **SHAIK SANIA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

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Certificate of Participation

This is to certify that **SHITAA SUBHASH** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **EESAM NIKHITHA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **AMATUR RAFIA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **SWAMY DANDU** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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A handwritten signature in black ink, appearing to read 'Kannan Moudgalya'.

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Certificate of Participation

This is to certify that **PYLLA MANI** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **MIRYALA UJWALA** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **ANAGADURGA KODIDETI** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

A comprehensive set of topics pertaining to **Biopython** were covered in the training.

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Certificate of Participation

This is to certify that **PERUMALLA NAGAJYOTHI NAGAJYOTHI** participated in the **Biopython** training organized at **Nagarjuna Government College (Autonomous), Nalgonda** in **January 2020** semester, with course material provided by the Spoken Tutorial Project, IIT Bombay.

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