




SHORT TERM COURSE ON  
**MOLECULAR  
BIOLOGY &  
BIOINFORMATICS**

 30 Hours

 Begins 10 Aug. 22

 INR 2000/-

**Department of Biotechnology**  
**Faculty of Engineering & Technology**  
**Circular**

**Dated: 05.07.2022**

The Department of Biotechnology, Faculty of Engineering and Technology, Rama University took the initiative to spread the Skill of Molecular Biology and Bioinformatics to motivate students by organizing a short term course. It will include interactive sessions; detailed practical practices, team to undertake building exercises for students to generate ideas and identify their strengths in the area of molecular biology and bioinformatics, etc. All students whether from Biotechnology engineering, Life sciences , biotechnology or other background are invited to take part in the course. The participating students will be honored with certificates of participation of Department of Biotechnology, Faculty of Engineering and Technology, Rama University.

NOTE: 1) Registrations open.

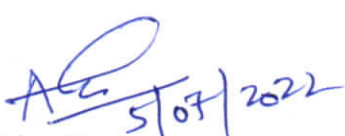
2) Venue- Department of Biotechnology, Faculty of Engineering and Technology, Rama University.

3) Deadline to Register- 10 Aug 2022

4) Course Date- 16 Aug to 27 Aug 2022

5) Timings – 10 AM TO 1 PM

For more details, contact Ms Priyancka Arora (7666954319). All students interested in illuminate can contact team on above contact numbers.

  
Dr. Ajay Kumar

HoD Biotechnology

HOD  
Biotechnology  
FET, Rama University

**Department of Biotechnology**  
**Rama University**  
**Short Term Course on Molecular Biology and Bioinformatics**  
**Organised on 16th Aug'2022 to 31st Aug'2022**

S.No.	Name	Fee (Date & Transaction Detail)	Remarks By Accounts
1	Divyansh Verma	UPI221727329441 - 05.08.2022	2000 confirmed
2	Abhaya sharma	06/08/2022 UPI Transaction ID - 221841010778	2000 confirmed
3	Visheshika pandey	06/08/2022 UPI transaction ID - 221841281656	2000 confirmed
4	CHARU SINGH	8/7/2022 UPI Transaction- 221909252841	2000 confirmed
5	VIBHU SHUKLA	07/08/2022 UPI transaction ID 221964401749	2000 confirmed
6	Shubhangi Raizada	UPI222005570800 - 08.08.2022	2000 confirmed
7	Shubhankari Mishra	02/08/2022 , 221470637412	2000 confirmed
8	DIVYANSHI SWARNAKAR	02/08/2022, UPI REF.NO.221401488249	2000 confirmed
9	Shalini Nishad	13/07/2022, UPI Transaction ID 219419167031	2000 confirmed
10	Aakash Singh	09/08/2022 , 222130519840	2000 confirmed
11	Shaan ur rahman	09/08/2022 ,222158324043	2000 confirmed
12	Pravesh Kumar	222459238208	2000 confirmed
13	Aman Saxena	(APLAP7c78dd1f646454889f184118ea18c4) Date: 12-08-2022	2000 confirmed
14	Chitrangana mishra	18 August 22 Transaction ID- IMPS00209830618	2000 confirmed
15	Nancy Gupta	13 August 2022 Transaction ID- 222588274684	2000 confirmed

*Total Received 30,000/-*  
*Y. K. Verma*  
*02/08/2022*

Department of Biotechnology  
Faculty of Engineering & Technology  
Short Term Course- August 2022

Molecular Biology & Bioinformatics

Time Table

Date/Day	10:00- 11:00 am	11:00-12:00 noon	12:00- 1:00 am
16 <sup>th</sup> Aug'22/ Tuesday	Theory on regulatory agencies, handling and storage of, chemicals, microbes and preservation	Laboratory safety, molecular biology laboratory equipments (Theory)	Measurements, solutions and calculations (Theory)
17 <sup>th</sup> Aug'22/ Wednesday	Theory on Isolation of genetic materials from different sources	Isolation of DNA from plants. (Part-1)	Isolation of DNA from plants. (Part-1)
18 <sup>th</sup> Aug'22/ Thursday	Isolation of DNA from plants (Part-2)	Spectrophotometer (Theory)	Spectrophotometer (Practical)
19 <sup>th</sup> Aug'22/ Friday	Isolation of DNA from Bacteria (Practical)	Isolation of DNA from Bacteria (Practical)	Isolation of DNA from Bacteria (Practical)
20 <sup>th</sup> Aug'22/ Saturday	Isolation of DNA from Animals (Practical)	Isolation of DNA from Animals (Practical)	Isolation of DNA from Animals (Practical)
22 <sup>th</sup> Aug'22/ Monday	Agarose gel electrophoresis theory	Agarose gel electrophoresis practical	Agarose gel electrophoresis practical
23 <sup>th</sup> Aug'22/ Tuesday	SDS-PAGE Theory	SDS-PAGE Practical	SDS-PAGE Practical
24 <sup>th</sup> Aug'22/ Wednesday	Introduction to Biological databases	Methods of sequence alignment	Sequence Analysis, NCBI
25 <sup>th</sup> Aug'22/ Thursday	Analysis of Multiple sequence Alignment	Phylogenetic analysis	Nucleic acid

			amplification and sequencing (Theory)
26 <sup>th</sup> Aug'22/ Friday	PCR	PCR continued	Sample run on agarose gel electrophoresis
27 <sup>th</sup> Aug'22/ Saturday	qPCR	qPCR	qPCR
29 <sup>th</sup> Aug'22/ Monday	Protein Expression (Theory)	Protein Detection (Theory)	Protein Purification (Theory)
30 <sup>th</sup> Aug'22/ Tuesday	DOT-ELISA (Theory)	DOT-ELISA (Practical)	Practice
31 <sup>th</sup> Aug'22/ Wednesday	Double diffusion technique for identification of Antigen Antibody sample (Theory)	Double diffusion technique for identification of Antigen Antibody sample (Practical)	Practice

*AJ*  
12/7/2022

Dr. Ajay Kumar

HoD Biotechnology

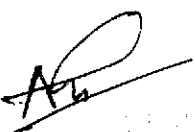
**HOD**  
**Biotechnology**  
FET, Rama University,  
Kanpur

**FACULTY OF ENGINEERING & TECHNOLOGY****Department of Biotechnology**

Rama University Uttar Pradesh, Kanpur

**SHORT TERM COURSE ON "MOLECULAR BIOLOGY AND BIOINFORMATICS"****Attendance Percentage of Students(16 Aug 2022- 31 Aug 2022)**

S. No.	Student's Name	Attendance Percentage
1	Aakash Singh	100
2	Abhaya Sharma	92.3
3	Aman Saxena	84.61
4	Charu Singh	100
5	Chitrangana Mishra	84.61
6	Divyansh Verma	100
7	Divyanshi Swarnakar	76.92
8	Nancy Gupta	92.3
9	Pravesh Kumar	84.61
10	Shaan Ur Rahman	92.3
11	Shalini Nishad	76.92
12	Shubhangi Raizada ,	76.92
13	Shubhankari Mishra	100
14	Vibhu Shukla	100
15	Visheshika Pandey	100




Priyanka  
PRIYANCA ARORA  
(Coordinator)

Department of Biotechnology

Short Term Course on Molecular Biology and Bioinformatics-2022

S.No	Name of Students	16/8/2022 10:00-1:00PM	17/8/2022 10:00-1:00PM	18/8/2022 10:00-1:00PM	19/8/2022 10:00-1:00PM	19/8/2022 10:00-1:00PM	20/8/2022 10:00-1:00PM	22/8/2022 10:00-1:00PM	23/8/2022 10:00-1:00PM	24/8/2022 10:00-1:00PM	25/8/2022 10:00-1:00PM	26/8/2022 10:00-1:00PM	27/8/2022 10:00-1:00PM	29/8/2022 10:00-1:00PM	30/8/2022 10:00-1:00PM	31/8/2022 10:00-1:00PM
1	Aakash Singh	P	P	P	P	P	P	A	A	P	P	P	P	P	P	P
2	Abhaya Sharma	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3	Anam Saxena	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4	Charu Singh	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P
5	Chitrangana Mishra	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
6	Divyansh Verma	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P
7	Divyanshi Swarnakar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
8	Nancy Gupta	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
9	Pravesh Kumar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
10	Shaan Ur Rahman	A	P	P	P	P	P	P	P	P	A	P	P	P	P	P
11	Shahm Nishad	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
12	Shubhangi Razada	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
13	Shubhankari Mishra	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
14	Vibhu Shukla	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
15	Visheshika Pandey	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

  
**HOD**  
**Biotechnology**  
**FET, Rama University**  
**Kanpur**

<b>FACULTY OF ENGINEERING &amp; TECHNOLOGY</b>		
<b>Department of Biotechnology</b>		
Rama University Uttar Pradesh, Kanpur		
<b>SHORT TERM COURSE ON "MOLECULAR BIOLOGY AND BIOINFORMATICS"(16 Aug 2022- 31 Aug 2022)</b>		
<b>ASSESSMENT</b>		
<b>S. No.</b>	<b>Student's Name</b>	<b>Marks Obtained (M.M. 50)</b>
1	Aakash Singh	38
2	Abhaya Sharma	45
3	Aman Saxena	35
4	Charu Singh	34
5	Chitrangana Mishra	27
6	Divyansh Verma	42
7	Divyanshi Swarnakar	40
8	Nancy Gupta	42
9	Pravesh Kumar	26
10	Shaan Ur Rahman	35
11	Shalini Nishad	26
12	Shubhangi Raizada	37
13	Shubhankari Mishra	44
14	Vibhu Shukla	26
15	Visheshika Pandey	26

*[Handwritten Signature]*

*Privancka*  
**PRIVANCKA ARORA**  
 (Coordinator)



## **SHORT TERM COURSE ON MOLECULAR BIOLOGY & BIOINFORMATICS**

### **About the course:**

Molecular Biology and Bioinformatics is fast emerging as a leading lucrative area of research. The emerging industries need capable molecular biologist cum bioinformatician who know practical aspects of molecular biology techniques and can successfully provide high-quality support for the development of drugs, diagnostic tools. To ensure this, the department of Biotechnology is offering a short-term course on Molecular Biology and Bioinformatics.

The aim of this course is

- To get an idea about the importance of Molecular Biology & Bioinformatics.
- To gain both theoretical and practical knowledge with good laboratory practices.
- To acquainted with different diagnostics and drug development industries and their quality sector.
- Successful training will help the students to obtain job in respective sector.

The curriculum has been designed carefully with the help of industry experts and covers comprehensive knowledge of the subject and lab skills.

**DURATION:** 30 HOURS

**COURSE FEES:** INR 2000

**ACCOUNT DETAILS:** Account Holder Name: RAMA UNIVERSITY UTTAR PRADESH

Account Number: 696820110000037

Account Type: CURRENT ACCOUNT

IFSC Code: BKID0006968

**INSTRUCTORS:** Dr. Ajay Kumar and Er. Priyaneka Arora, Department of Biotechnology, FET, Mob: 7666954319; Email: drajay.fet@ramauniversity.ac.in

**ELIGIBILITY:** Minimum Qualification is undergraduate in biotechnology, biological sciences, agricultural sciences and allied sciences.

[B.Tech. Biotechnology/ Food Technology/ Biochemical Engineering/ Biomedical Engineering, B.Sc.Biotechnology/Biology/Agriculture Sciences, M.Sc.Biotechnology/Biochemistry/Microbiology/Life Sciences/Zoology/Botany/Agriculture Sciences etc.]

**COURSEWARE:** Course material is provided in printed / electronic form.

**MODE:** Classroom + Lab.

**EVALUATION SYSTEM:** A 100 mark each paper (50 marks Internal and 50 marks external) Score at least 40% to pass.

**BATCHES 2022:** Batches Start: 16th August 2022-30<sup>th</sup> July.

(Application start date: 15<sup>th</sup> July 2022-30<sup>th</sup> July). Limited seats are available; registration will be first come first serve bases.

**MINIMUM AGE:** No bar

**MAXIMUM AGE:** No bar

**EMPLOYMENT OPPORTUNITY:**

Today, various molecular biology techniques are required by several diagnostics industries. Molecular and Cell Biologists find employment opportunities in research labs established by Government of India or in the R&D departments of various private drug companies. They can work on developing therapeutic drugs to working on stem cell research and in many other areas within the medical development field.

**TARGET AUDIENCE**

- Pathology Lab Employee
- Personnel from Industry
- Personnel from Academic fields
- Students and faculty of Agriculture

- Students and faculty of Biotechnology

### COURSE CONTENT

- Methods of Isolation of Genetic material from Plants, Animals and Bacteria.
- Methods of quantification of nucleic acids & Analysis of genetic material,.
- Structure and function of mRNA, rRNA, tRNA
- Regulatory agencies, handling & storage of chemicals, reagents, microbial specimens and its preservation
- Laboratory Safety, Molecular Biology Laboratory Equipments, Measurements, Solutions, & Calculations
- DNA Restriction & Nucleic acid analysis,
- Immunology techniques like DOT ELISA and Double Diffusion.
- Nucleic acid amplification and Sequencing, Nucleic acid Hybridization & Expression analysis, Molecular Cloning
- qPCR
- Protein Expression, Protein detection and analysis, Protein Purification Techniques

### **Bioinformatics**

- Introduction to Biological Database (Gene Bank, EMBL, DDBJ, SWISS PROT)
- Sequence Analysis; Methods for sequence alignment.
- Dynamic programming algorithms,

- NCBI, Analysis of sequence alignment of given protein sequence.
- Analysis of sequence alignment of any given gene sequence.
- Analysis of Multiple sequence alignment of given protein sequences.
- Phylogenetic analysis of given protein sequences.

### **Lab Skills**

- Handling of laboratory instruments used in molecular biology (Autoclave, LAF, Microscopy, Oven, UV Spectrophotometer etc).
- Genomic DNA Isolation from Plant, Animal tissue, Bacteria.
- Plasmid DNA Isolation.
- Nucleic acid and Protein Quantification.
- Nucleic acid and protein analysis (Agarose gel electrophoresis & SDS PAGE)
- Gel Documentation
- DNA Amplification (Polymerase Chain Reaction)
- Restriction Endonuclease Digestion of DNA.
- Primer Designing for Expression
- Reading frame Preparation,
- Unknown Sequence BLAST, and Homology Modeling
- Submission of DNA or Protein Sequence Data in Databank.
- Phylogenetic analysis of given sequences

### **COURSE OUTCOME:**

Molecular Biology is a broad sector and students (participants) will develop skills in molecular biology for getting job in industry and governmental Research and development sector.

**VALUE ADDED:** SEMINAR – (Course Review & Assessment)

**CERTIFICATE:** Certificate will be provided after completion of course.

**Rama University , Kanpur**  
**Department of Biotechnology**

ID	Institute Name	Form Category	Department	Faculty Name	Name of Course	Course Code	Duration	Total Registered Students	Course Fees	Number of Issuing Certificate	Course Starting Date	Course Closing Date
1	FET	Short Term Courses	Biotechnology	Anand Kumar	Molecular biology and Bioinformatics	Short Term	30 hr	18	2000	18	14-Jan-21	18-Mar-21

**Department of Biotechnology**  
**FET, Rama University**

To  
Dean  
Faculty of Engineering & Technology  
Rama University

Date: 12.09.2022

**Subject: Regarding issue the short term certificate on “Molecular Biology and Bioinformatics**

Dear Sir,

This is to inform you that Department of Biotechnology has conducted the short term course on “Molecular Biology and Bioinformatics”, from 16<sup>th</sup> August’22 to 31<sup>st</sup> August’22. 15 students participated in this course which also includes students from other colleges. I, hereby, request you to issue certificates to the students.

I am attaching award sheet of assessment results and attendance percentage of the students.

Thanking You



Dr. Ajay Kumar  
HoD Biotechnology

## SHORT TERM COURSE CERTIFICATE LIST

### Course on Molecular Biology & Bioinformatics

Sl.No.	Faculty	Department	Candidate Name	Certificate No.
1	Faculty of Engineering & Technology	Biotechnology	Divyansh Verma	1198
2			Abhaya Sharma	1199
3			Visheshika Pandey	1200
4			Charu Singh	1201
5			Vibhu Shukla	1202
6			Shubhangi Raizada	1203
7			Shubhankari Mishra	1204
8			Divyanshi Swarnakar	1205
9			Shalini Nishad	1206
10			Aakash Singh	1207
11			Shaan ur Rahman	1208
12			Pravesh Kumar	1209
13			Aman Saxena	1210
14			Chitrangana Mishra	1211
15			Nancy Gupta	1212

  
27/10/2022



**Department of Biotechnology**  
**FET, Rama University**

To  
Dean  
Faculty of Engineering & Technology  
Rama University

Date: 12.09.2022

**Subject: Regarding issuance of incentive of short term course of “Molecular Biology and Bioinformatics**

Dear Sir,

With reference to the short term course on “Molecular Biology and Bioinformatics”, organized by Department of Biotechnology on 16<sup>th</sup> August’22 to 31<sup>st</sup> August’22 for 39 hours, please provide the incentives to the coordinator, Ms. Priyancka Arora, Assistant Professor, of the course. Since 15 students participated in the course, total collected amount is Rs. 30,000. I am attaching the verification of the money received by the accounts department, along with this letter.

Thanking You



Dr. Ajay Kumar  
HoD Biotechnology

Ser. No. 1198



www.ramauniversity.ac.in

## CERTIFICATE OF SHORT TERM COURSE

This is to certify that

Mr. / Ms. Divyanshi Verma has successfully completed  
more than 30 hrs short term course on "Molecular Biology and  
Bioinformatics"  
conducted from 16.08.2022 to 31.08.2022 in the department  
of Biotechnology Faculty of Engineering & Technology

[Signature]  
Dean, Faculty of Engineering & Technology

[Signature]  
Registrar/Controller of Examinations



www.ramauniversity.ac.in

Ser. No. 1199

## CERTIFICATE OF SHORT TERM COURSE

This is to certify that

Mr. / Ms. Abhaya Sharma has successfully completed  
more than 30 hrs short term course on "Molecular Biology and  
Bioinformatics"  
conducted from 16.08.2022 to 31.08.2022 in the department  
of Biotechnology Faculty of Engineering & Technology

Sharma  
Dean, Faculty of Engineering & Technology

RK Sharma  
Registrar/Controller of Examinations



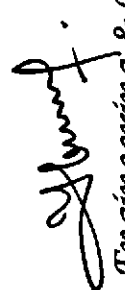
Ser. No. 1200

www.ramauniversity.ac.in

## CERTIFICATE OF SHORT TERM COURSE

This is to certify that

Mr. / Ms. Visheshika Pandey has successfully completed  
more than 30 hrs short term course on "Molecular Biology and  
Bioinformatics"  
conducted from 16.08.2022 to 31.08.2022 in the department  
of Biotechnology Faculty of Engineering & Technology

  
Engineering & Technology

Registrar/Controller of Examinations



www.ramauniversity.ac.in

Ser. No. 1201

## CERTIFICATE OF SHORT TERM COURSE

This is to certify that

Mr. / Ms. Charu Singh has successfully completed  
more than 30 hrs short term course on "Molecular Biology and  
Bioinformatics"  
conducted from 16.08.2022 to 31.08.2022 in the department  
of Biotechnology Faculty of Engineering & Technology

[Signature]  
Dean, Faculty of Engineering & Technology

[Signature]  
Registrar/Controller of Examinations

Ser. No. 1202




**RAMA**  
UNIVERSITY

www.ramauniversity.ac.in

**CERTIFICATE OF SHORT TERM COURSE**

This is to certify that

Mr. / Ms. Vibhu Shukla has successfully completed  
more than 30 hrs short term course on "Molecular Biology and  
Bioinformatics"  
conducted from 16.08.2022 to 31.08.2022 in the department  
of Biotechnology Faculty of Engineering & Technology

  
Engineering & Technology

Dean, Faculty of \_\_\_\_\_



Registrar/Controller of Examinations



**RAMA**  
UNIVERSITY

www.iamauiversity.ac.in

Ser. No. **1203**

**CERTIFICATE OF SHORT TERM COURSE**

This is to certify that

Mr. / Ms. Shubhangi Raizada has successfully completed  
more than 30 hrs short term course on "Molecular Biology and  
Bioinformatics"  
conducted from 16.08.2022 to 31.08.2022 in the department  
of Biotechnology Faculty of Engineering & Technology

Henry  
Dean, Faculty of Engineering & Technology

RKS

Registrar/Controller of Examinations

Ser. No. 1204




**RAMA**  
UNIVERSITY

www.ramauniversity.ac.in

## CERTIFICATE OF SHORT TERM COURSE

This is to certify that

Mr. / Ms. Shubhankari Mishra has successfully completed  
more than 30 hrs short term course on "Molecular Biology and  
Bioinformatics"  
conducted from 16.08.2022 to 31.08.2022 in the department  
of Biotechnology Faculty of Engineering & Technology

  
Engineering & Technology

Dean, Faculty of \_\_\_\_\_



Registrar/Controller of Examinations



**RAMIA**  
UNIVERSITY




www.ramauniversity.ac.in

Ser. No. 1205

**CERTIFICATE OF SHORT TERM COURSE**

This is to certify that

Mr. / Ms. Divyanshi Swarnakar has successfully completed  
more than 30 hrs short term course on "Molecular Biology and  
Bioinformatics"  
conducted from 16.08.2022 to 31.08.2022 in the department  
of Biotechnology Faculty of Engineering & Technology

  
Engineering & Technology

Dean, Faculty of



Registrar/Controller of Examinations

Ser. No. 1206



**RAMA**  
UNIVERSITY

www.ramauniversity.ac.in

**CERTIFICATE OF SHORT TERM COURSE**

This is to certify that

Mr. / Ms. Shalini Nishad has successfully completed  
more than 30 hrs short term course on "Molecular Biology and  
Bioinformatics"  
conducted from 16.08.2022 to 31.08.2022 in the department  
of Biotechnology Faculty of Engineering & Technology

Shalini  
Dean, Faculty of Engineering & Technology

RKema

Registrar/Controller of Examinations



www.ramauniversity.ac.in

Ser. No. 1208

## CERTIFICATE OF SHORT TERM COURSE

This is to certify that

Mr. / Ms. Shaanur Rafiman has successfully completed  
more than 30 hrs short term course on "Molecular Biology and  
Bioinformatics"  
conducted from 16.08.2022 to 31.08.2022 in the department  
of Biotechnology Faculty of Engineering & Technology

Shanf.  
Dean, Faculty of Engineering & Technology

RKDMs  
Registrar/Controller of Examinations

Ser. No. 1207





www.ramauniversity.ac.in

CERTIFICATE OF SHORT TERM COURSE

This is to certify that

Mr. / Ms. Aakash Singh has successfully completed  
more than 30 hrs short term course on "Molecular Biology and  
Bioinformatics"  
conducted from 16.08.2022 to 31.08.2022 in the department  
of Biotechnology Faculty of Engineering & Technology

  
Dean, Faculty of Engineering & Technology

  
Registrar/Controller of Examinations



www.ramauniversity.ac.in

Ser. No. 1209

## CERTIFICATE OF SHORT TERM COURSE

This is to certify that

Mr. / Ms. Pravesh Kumar has successfully completed  
more than 30 hrs short term course on "Molecular Biology and  
Bioinformatics"  
conducted from 16.08.2022 to 31.08.2022 in the department  
of Biotechnology Faculty of Engineering & Technology

[Signature]  
Dean, Faculty of Engineering & Technology

[Signature]

Registrar/Controller of Examinations



**RAMA**  
UNIVERSITY

www.ramauiversity.ac.in

Ser. No. 1211

**CERTIFICATE OF SHORT TERM COURSE**

This is to certify that

Mr. / Ms. Chitrangana Mishra has successfully completed  
more than 30 hrs short term course on "Molecular Biology and  
Bioinformatics"  
conducted from 16.08.2022 to 31.08.2022 in the department  
of Biotechnology Faculty of Engineering & Technology

Hemant  
Dean, Faculty of Engineering & Technology

R Rama

Registrar/Controller of Examinations

Ser. No. 1210



www.ramiauniversity.ac.in

CERTIFICATE OF SHORT TERM COURSE

This is to certify that

Mr. / Ms. Aman Saxena has successfully completed  
more than 30 hrs short term course on "Molecular Biology and  
Bioinformatics"  
conducted from 16.08.2022 to 31.08.2022 in the department  
of Biotechnology Faculty of Engineering & Technology

[Signature]  
Dean, Faculty of Engineering & Technology

[Signature]  
Registrar/Controller of Examinations

Ser. No. 1212



www.ramauniversity.ac.in

CERTIFICATE OF SHORT TERM COURSE

This is to certify that

Mr. / Ms. Nancy Gupta has successfully completed  
more than 30 hrs short term course on "Molecular Biology and  
Bioinformatics"  
conducted from 16.08.2022 to 31.08.2022 in the department  
of Biotechnology Faculty of Engineering & Technology

[Signature]  
Dean, Faculty of Engineering & Technology

[Signature]  
Registrar/Controller of Examinations





