



### STUDENTS FEEDBACK ON CURRICULUM

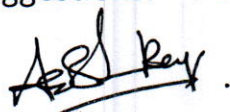
This questionnaire is to collect information relating to your satisfaction towards curriculum for creating conducive atmosphere for teaching and learning. The information provided by you will be kept confidential and will be used as important feedback for quality improvement of the program of studies/institution.

|                     |               |
|---------------------|---------------|
| Academic Year       | 2022 - 23     |
| Branch              | Biotchnology. |
| Name of the Student | AASHTA ROY    |
| USN                 | 15G208T001    |

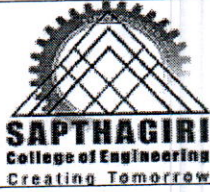
Rate the curriculum/syllabus on the following Points

| SL NO | Statements  | Excellent | Very good | Good | Average | Below Average |
|-------|---|-----------|-----------|------|---------|---------------|
|       |   | 5         | 4         | 3    | 2       | 1             |
| 1     | How do you rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course? | ✓         |           |      |         |               |
| 2     | How do you rate the allocation of the credits to the courses?   | ✓         |           |      |         |               |
| 3     | Relevance for implementation in projects  | ✓         |           |      |         |               |
| 4     | How do you rate the electives offered in relation to the technological advancements?  | ✓         |           |      |         |               |
| 5     | How do rate the evaluation scheme designed for each of the course?  |           | ✓         |      |         |               |
| 6     | How do you rate the percentage of courses having LAB components?  | ✓         |           |      |         |               |
| 7     | Curriculum is sufficient to make you analyze the engineering problems and its suitable solution                               | ✓         |           |      |         |               |
| 8     | Suggestions (if any)  |           |           |      |         |               |

Suggestions: Required more Practical knowledge on day to day skills

  
Signature





### STUDENTS FEEDBACK ON CURRICULUM

This questionnaire is to collect information relating to your satisfaction towards curriculum for creating conducive atmosphere for teaching and learning. The information provided by you will be kept confidential and will be used as important feedback for quality improvement of the program of studies/institution.

|                     |                   |
|---------------------|-------------------|
| Academic Year       | 2022-23           |
| Branch              | BIOTECHNOLOGY     |
| Name of the Student | Chaitanya Shree A |
| USN                 | 15620BT012        |

Rate the curriculum/syllabus on the following Points

| SL NO | Statements  | Excellent | Very good | Good | Average | Below Average |
|-------|---|-----------|-----------|------|---------|---------------|
|       |   | 5         | 4         | 3    | 2       | 1             |
| 1     | How do you rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course? | ✓         |           |      |         |               |
| 2     | How do you rate the allocation of the credits to the courses?   | ✓         |           |      |         |               |
| 3     | Relevance for implementation in projects  |           | ✓         |      |         |               |
| 4     | How do you rate the electives offered in relation to the technological advancements?  | ✓         |           |      |         |               |
| 5     | How do rate the evaluation scheme designed for each of the course?  | ✓         |           |      |         |               |
| 6     | How do you rate the percentage of courses having LAB components?  | ✓         |           |      |         |               |
| 7     | Curriculum is sufficient to make you analyze the engineering problems and its suitable solution                               |           | ✓         |      |         |               |
| 8     | Suggestions (if any)  |           |           |      |         |               |

Suggestions: Practical Skills needed

Chaitanya Shree A.  
Signature





### STUDENTS FEEDBACK ON CURRICULUM

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|                     |               |
|---------------------|---------------|
| Academic Year       | 2022-23       |
| Branch              | Biotechnology |
| Name of the Student | J Joylyn Glee |
| USN                 | 1SG20B1025    |

Rate the curriculum/syllabus on the following Points

| SL NO | Statements  | Excellent | Very good | Good | Average | Below Average |
|-------|---|-----------|-----------|------|---------|---------------|
|       |   | 5         | 4         | 3    | 2       | 1             |
| 1     | How do you rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course? | ✓         |           |      |         |               |
| 2     | How do you rate the allocation of the credits to the courses?   |           |           | ✓    |         |               |
| 3     | Relevance for implementation in projects  | ✓         |           |      |         |               |
| 4     | How do you rate the electives offered in relation to the technological advancements?  | ✓         |           |      |         |               |
| 5     | How do rate the evaluation scheme designed for each of the course?  | ✓         |           |      |         |               |
| 6     | How do you rate the percentage of courses having LAB components?  |           | ✓         |      |         |               |
| 7     | Curriculum is sufficient to make you analyze the engineering problems and its suitable solution                               |           |           |      |         |               |
| 8     | Suggestions (if any)  |           |           |      |         |               |

Suggestions: Lab component are still more Required

Signature

*Joylyn Glee*

*[Signature]*  
Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hesaraghatta Main Road  
Bengaluru - 560 057

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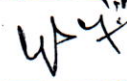
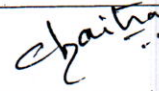
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## Department of Biotechnology

### CIRCULAR

Date: 15/07/2023

This is to inform that there will be a meeting of Academic committee members for analyzing curriculum syllabus of academic year 2023-24 the meeting is scheduled on 16/07/2023 at 11.30 am in HOD's chamber.

| Sl No. | Faculty Name    | Designation         | Signature   |
|--------|-----------------|---------------------|---|
| 1      | Dr.Veena S More | HOD& Professor      |   |
| 2      | Dr.Soumya C     | Assistant Professor |  |
| 3      | Dr Gowri morji  | Assistant Professor |  |
| 4      | Dr Chaitra B S  | Assistant Professor |  |

  
Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hesaraghatta Main Road  
Bengaluru - 560 057



Date: 16/07/2023


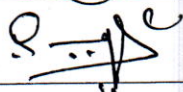
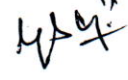
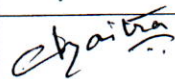
### MINUTES OF MEETING

With reference to circular dated on 15/07/2023, the academic committee member assembled in HODs chamber for addressing the following agenda.

#### Agenda:

- Reviewing department curriculum syllabus of Academic Year 2023-24
- Reviewing the feedback analysis of various stake holders of academic year 2022-23
- Identifying the gaps in the syllabus
- Action to be taken for the identified gaps.

During the meeting the following members were present

| SI No. | Faculty Name    | Designation         | Signature   |
|--------|-----------------|---------------------|---|
| 1      | Dr.Veena S More | HOD& Professor      |  |
| 2      | Dr.Soumya C     | Assistant Professor |  |
| 3      | Dr Gowri mirji  | Assistant Professor |  |
| 4      | Dr Chaitra B S  | Assistant Professor |  |

The following points were discussed in the meeting

1. The committee members reviewed the analysis of department curriculum syllabus.
2. The committee members discussed about the feedback of department curriculum syllabus.
3. The members identified the gaps based on the analysis.
4. The following actions were taken for the gaps that are identified.

  
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## Department of Biotechnology

| SL.NO | SEM                 | Course Title                      | Identified Gap                              |
|-------|---------------------|-----------------------------------|---|
| 1     | 7 <sup>th</sup> Sem | R Programming for Biotechnologist | Lack of Theory and practical implementation |

### Action Taken:

Based on the feedback obtained from Students, Faculties and Alumni and analysis of syllabus by department academic committee members, it was decided to conduct certification course R Programming for Biotechnologists to overcome the gaps identified in the curriculum/syllabus.

  
HOD, BT

  
Principal  
Sapthagiri College of Engineering  
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Bengaluru - 560 057





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## Department of Biotechnology

Date: 16/07/2023

To

IQAC Coordinator  
Sapthagiri College of Engineering  
Bengaluru-560 057

Respected sir/madam,


Subject: Requisition for conduction of certification course approval from Governing Council.

With respect to the Academic committee members meeting was held for analyzing department curriculum/syllabus for the academic year 2023-24. The committee members identified few gaps after analyzing the syllabus and feedback from the stakeholders. To bridge the gaps identified in the curriculum, the committee members decided to conduct a certification course on R Programming for Biotechnologists from 18<sup>th</sup> December 2023 to 22<sup>nd</sup> December 2023 for the academic year 2023-24. So, I request you to forward and get the approval from the governing council for the same.


Thanking You,

Enclosure: Budget Proposal

  
Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hesaraghatta Main Road  
Bengaluru - 560 057

  
HOD-BT  
Head of the Department  
Dept. of Bio-Technology  
Sapthagiri College of Engineering  
No. 57/1, Chikkasandra  
Hesaraghatta Main Road  
Bengaluru - 57

Forwarded for Gc approval  
and Ratification

  
IQAC - Co-ordinator  
Sapthagiri College of Engineering  
Bengaluru - 560 057.



Date: 16/07/2023

To

IQAC Coordinator  
Sapthagiri College of Engineering  
Bengaluru-560 057

Respected sir/madam,

Subject: The Budget Proposal for conduction a certificate program on R Programming for Biotechnologists from 18<sup>th</sup> December 2023 to 22<sup>nd</sup> December 2023 is hereby enclosed for your kind consideration and approval.

The details of the recurring budget are given as follows:

Recurring Amount:

| Sl. No. | Description  | Quantity | Amount in Rs. |
|---------|--------------|----------|---------------|
| 1       | Bouquet      | 2        | 500           |
| 2       | Certificates | Students | 2000          |
| 3       | Others       |          | 1500          |
| Total   |              |          | 4000          |

*Forwarded for GC approval  
and ratification*

*[Signature]*  
IQAC - Co-ordinator  
Sapthagiri College of Engineering  
Bengaluru - 560 057.

*[Signature]*  
HOD, BT  
Head of the Department  
Dept. of Bio -Technology  
Sapthagiri College of Engineering  
No. 57/1, Chikkasandra  
Hesaraghatta Main Road  
Bangalore -57

*[Signature]*  
Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hesaraghatta Main Road  
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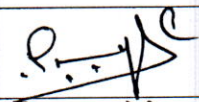

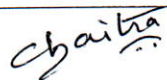
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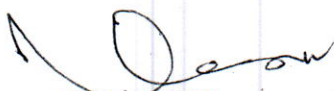
## Department of Biotechnology

11-12-2023

### CIRCULAR

This is to inform that the following Curriculum Board members are requested to attend the meeting on 11/12/2023 at 10.30 AM in the HODs chamber to decide the syllabus and the lesson plan for the certificate program on “R Programming for Biotechnologists”

| Sl No. | Faculty Name    | Designation         | Signature   |
|--------|-----------------|---------------------|---|
| 1      | Dr.Veena S More | HOD& Professor      |  |
| 2      | Dr.Soumya C     | Assistant Professor |  |
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Head of the Department  
Dept. of Bio -Technology  
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## Department of Biotechnology

Date: 11-12-2023

To,

Dr Vishwanathan

Senior Scientific Officer, Mediomix Diagnosis and Bioresearch Pvt Ltd.

Bangalore

Respected Sir,

Subject: Invitation as a “Guest Speaker” in certification program and to attend meeting to discuss about the certification program

Department of Biotechnology has planned to conduct a certification program titled “R Programming for Biotechnologists” for 7<sup>th</sup> semester students from 18<sup>th</sup> Dec 2023 to 22<sup>nd</sup> Dec 2023. In this connection, we are privileged to invite you as a guest speaker on the above mentioned topic.

Thanking you for your kind acceptance to our request. We request you to attend the meeting to discuss about the conduction of certification course on 12/12/2023 at 10.30 AM.

Thanking you

Yours faithfully

  
Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hesaraghatta Main Road  
Bengaluru - 560 057

  
Head of the Department  
Dept. of Bio - Technology  
Sapthagiri College of Engineering  
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Bengaluru - 56





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## Department of Biotechnology

Date: 11-12-2023

To,  
Ms. Padhmeni Priya  
Mediomix Diagnosis and Bioresearch Pvt, Ltd.  
Bangalore

Respected Madam,

Subject: Invitation as a “Guest Speaker” in certification program and to attend meeting to discuss about the certification program

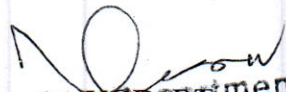
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Head of the Department  
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## Department of Biotechnology

Date: 11-12-2023

To,  
Ms. Shilpa  
Mediomix Diagnosis and Bioresearch Pvt, Ltd.  
Bangalore

Respected Madam,

Subject: Invitation as a "Guest Speaker" in certification program and to attend meeting to discuss about the certification program


Department of Biotechnology has planned to conduct a certification program titled "R Programming for Biotechnologists" for 7<sup>th</sup> semester students from 18<sup>th</sup> Dec 2023 to 22<sup>nd</sup> Dec 2023. In this connection, we are privileged to invite you as a guest speaker on the above mentioned topic.

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Thanking you

Yours faithfully

  
Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hesaraghatta Main Road  
Bengaluru - 560 057

  
Head of the Department  
Dept. of Bio - Technology  
Sapthagiri College of Engineering  
No. 57/1, Chikkasandra  
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## Department of Biotechnology

Date: 11-12-2023

To,  
Ms.Pooja Singh  
Quality Data Operations and Management, Genisys Group  
Bangalore

Respected Madam,

Subject: Invitation as a “Guest Speaker” in certification program and to attend meeting to discuss about the certification program


Department of Biotechnology has planned to conduct a certification program titled “R Programming for Biotechnologists” for 7<sup>th</sup> semester students from 18<sup>th</sup> Dec 2023 to 22<sup>nd</sup> Dec 2023. In this connection, we are privileged to invite you as a guest speaker on the above mentioned topic.

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Thanking you

Yours faithfully

  
Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hesaraghatta Main Road  
Bengaluru - 560 057


  
HOD BT  
Head of the Department  
Dept. of Bio -Technology  
Sapthagiri College of Engineering  
No. 57/1, Chikkasandra  
Hesaraghatta Main Road  
Bangalore - 57

### Minutes of Meeting

A meeting was conducted on 12- DEC-2023 in BT HoD's Chamber to discuss and approve the following about the Certification Course for 7<sup>th</sup> semester BT Students.

- **Course Title :** R Programming for Biotechnologists
- **Resource Personnel:** Dr Vishwanathan  
Senior Scientific Officer, Mediomix Diagnosis and Bioresearch  
Bangalore  
  
Ms. Padhmeni Priya  
Mediomix Diagnosis and Bioresearch Pvt, Ltd. Bangalore  
  
Ms. Shilpa  
Mediomix Diagnosis and Bioresearch Pvt Ltd. Bangalore  
  
Ms. Pooja Singh  
Quality Data Operations and Management, Genisys Group, Bangalore
- **Course Duration & Date:** 18<sup>th</sup> DEC 2023 to 22<sup>nd</sup> DEC 2023
- **Syllabus and Schedule of the certification program**

| Date       | Time              | Topics   |
|------------|-------------------|--|
| 18/12/2023 | 8:30 AM – 4.30 PM | Introduction to R Programming language, Fundamentals |
| 19/12/2023 | 8:30 AM – 4.30 PM | Variables, Scope, Input and Output, Data types       |
| 20/12/2023 | 8:30 AM – 4.30 PM | Data Structure                                       |
| 21/12/2023 | 8:30 AM – 4.30 PM | Vectors  |
| 22/12/2023 | 8:30 AM – 4.30 PM | Matrices, Application                                |

  
Principal  
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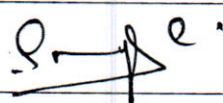
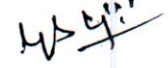
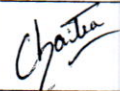

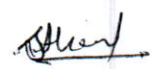
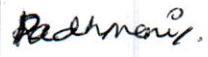
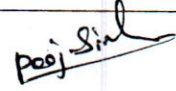
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## Department of Biotechnology

The following Curriculum board members were present

| SL. NO. | Faculty member    | Designation         | Signature   |
|---------|-------------------|---------------------|---|
| 1       | Dr.Veena S More   | HOD& Professor      |    |
| 2       | Dr Soumya C       | Assistant Professor |    |
| 3       | Dr Gouri Mirji    | Assistant Professor |    |
| 4       | Dr.Chaitra B S    | Assistant Professor |   |
| 5       | Dr Vishwanathan   | Resource Person     |  |
| 6       | Ms Shilpa         | Resource Person     |  |
| 7       | Ms Padhmeni Priya | Resource Person     |  |
| 8       | Ms Pooja Singh    | Resource Person     |  |



**HOD, Dept.**  
Dept. of Bio -Technology  
Sapthagiri College of Engineering  
No. 57/1, Chikkasandra  
Hesaraghatta Main Road  
Bengaluru -57



Principal  
Sapthagiri College of Engineering  
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## Department of Biotechnology

Date: 13/12/2023

### NOTICE

As a part of programming skill development, Department of Biotechnology is conducting Certification Course on “**R Programming for Biotechnologists**” from DEC 2023 to 22<sup>nd</sup> DEC 2023. All the 7th SEM BT students must attend the course compulsorily.

  
Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hesaraghatta Main Road  
Bengaluru - 560 057

  
HOD, BT  
Head of the Department  
Dept. of Bio -Technology  
Sapthagiri College of Engineering  
No. 57/1, Chikkasandra  
Hesaraghatta Main Road  
Bangalore -57





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## Department of Biotechnology

### Five Days Certification Course on “R Programming for Biotechnologists”

From 18/12/23 to 22/12/23

#### Student List

| Sl No. | USN        | Student Name                  | Signature |
|--------|------------|-------------------------------|-----------|
| 1      | 1SG20BT001 | AASTHA ROY                    |           |
| 2      | 1SG20BT002 | ABDULSAMAD                    |           |
| 3      | 1SG20BT003 | AISHWARYA B.L                 |           |
| 4      | 1SG20BT004 | ALICE JENNIFER                |           |
| 5      | 1SG20BT005 | AMINA FARHEEN                 |           |
| 6      | 1SG20BT006 | AMOGHA VARSHA                 |           |
| 7      | 1SG20BT007 | ANANYA B.S                    |           |
| 8      | 1SG20BT008 | ANNAPAREDDY<br>TRINAYANIREDDY |           |
| 9      | 1SG20BT009 | ASFIA SULTANA                 |           |
| 10     | 1SG20BT011 | CHAITHRA SHREE A              |           |
| 11     | 1SG20BT012 | CHETAN KAGINELLI              |           |
| 12     | 1SG20BT013 | CHETHANA R                    |           |
| 13     | 1SG20BT014 | DANUSH P                      |           |
| 14     | 1SG20BT015 | DEEKSHITHA M                  |           |

Principal  
Sapthagiri College of Engineering  
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Bengaluru - 560 057



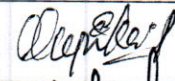
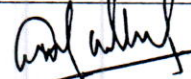

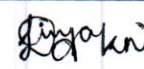
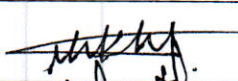
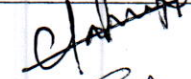
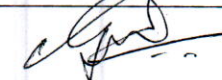


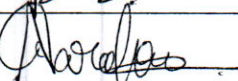
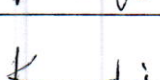
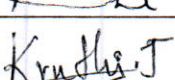
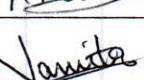
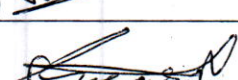
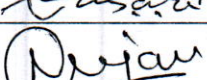
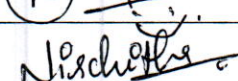

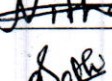
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## Department of Biotechnology

|    |            |                        |   |
|----|------------|------------------------|---|
| 15 | 1SG20BT016 | DEEPIKA PRAKASH        |    |
| 16 | 1SG20BT018 | DHANUSH HALLIKAR S     |    |
| 17 | 1SG20BT019 | DHARANI G              |    |
| 18 | 1SG20BT020 | DIVYA K N              |    |
| 19 | 1SG20BT021 | G L NIKHIL KUMAR REDDY |    |
| 20 | 1SG20BT022 | GANAVI N               |    |
| 21 | 1SG20BT023 | GAYATHRI S             |   |
| 22 | 1SG20BT024 | HARSHITHA REDDY G      |  |
| 23 | 1SG20BT025 | J JOYLYNN GRACE        |  |
| 24 | 1SG20BT027 | K NARAHARI             |  |
| 25 | 1SG20BT029 | KHUSHI BHAVANI K SINGH |  |
| 26 | 1SG20BT030 | KRUTHI J               |  |
| 27 | 1SG20BT031 | NAMITA KRISHNAKUMAR    |  |
| 28 | 1SG20BT033 | NESARA M               |  |
| 29 | 1SG20BT034 | NIRANJAN M             |  |
| 30 | 1SG20BT035 | NISCHITHA K S          |  |
| 31 | 1SG20BT036 | NITHEESH S             |  |
| 32 | 1SG20BT037 | P SWATHI               |  |



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|    |            |                        |                  |
|----|------------|------------------------|------------------|
| 15 | 1SG20BT016 | DEEPIKA PRAKASH        | <i>Deepika</i>   |
| 16 | 1SG20BT018 | DHANUSH HALLIKAR S     | <i>Dhanush</i>   |
| 17 | 1SG20BT019 | DHARANI G              | <i>Dharani</i>   |
| 18 | 1SG20BT020 | DIVYA K N              | <i>Divya</i>     |
| 19 | 1SG20BT021 | G L NIKHIL KUMAR REDDY | <i>Nikhil</i>    |
| 20 | 1SG20BT022 | GANAVI N               | <i>Ganavi</i>    |
| 21 | 1SG20BT023 | GAYATHRI S             | <i>Gayathri</i>  |
| 22 | 1SG20BT024 | HARSHITHA REDDY G      | <i>Harshitha</i> |
| 23 | 1SG20BT025 | J JOYLYNN GRACE        | <i>J Joylynn</i> |
| 24 | 1SG20BT027 | K NARAHARI             | <i>Narahari</i>  |
| 25 | 1SG20BT029 | KHUSHI BHAVANI K SINGH | <i>Kushi</i>     |
| 26 | 1SG20BT030 | KRUTHI J               | <i>Kruthi</i>    |
| 27 | 1SG20BT031 | NAMITA KRISHNAKUMAR    | <i>Namita</i>    |
| 28 | 1SG20BT033 | NESARA M               | <i>Nesara</i>    |
| 29 | 1SG20BT034 | NIRANJAN M             | <i>Nirajan</i>   |
| 30 | 1SG20BT035 | NISCHITHA K S          | <i>Nischitha</i> |
| 31 | 1SG20BT036 | NITHEESH S             | <i>Nitheesh</i>  |
| 32 | 1SG20BT037 | P SWATHI               | <i>Swathi</i>    |

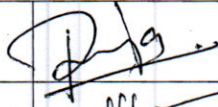
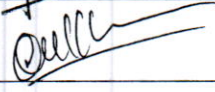

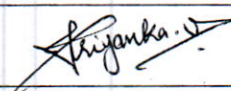
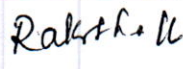
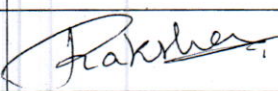
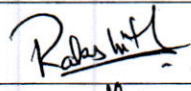
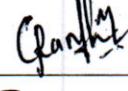
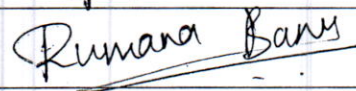
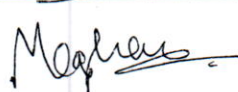
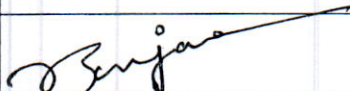
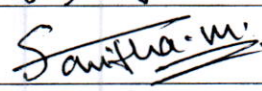
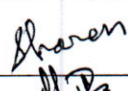
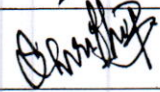
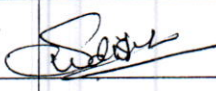
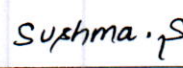
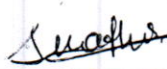
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|    |            |                            |   |
|----|------------|----------------------------|---|
| 33 | 1SG20BT038 | POOJA M                    |     |
| 34 | 1SG20BT039 | PRATHIKSHA GS              |    |
| 35 | 1SG20BT040 | PRAVALIKA KV               |    |
| 36 | 1SG20BT041 | PRIYANKA V                 |    |
| 37 | 1SG20BT042 | RAKSHA K                   |    |
| 38 | 1SG20BT043 | RAKSHA S                   |    |
| 39 | 1SG20BT044 | RAKSHITH R                 |   |
| 40 | 1SG20BT045 | RANJITHA C M               |  |
| 41 | 1SG20BT046 | RUMANA BANU                |  |
| 42 | 1SG20BT047 | S N MEGHA MOURYA<br>NANDAN |  |
| 43 | 1SG20BT049 | SANJANA S S                |  |
| 44 | 1SG20BT050 | SAVITHA M                  |  |
| 45 | 1SG20BT051 | SHARON RAJ                 |  |
| 46 | 1SG20BT052 | SMRITHI B                  |  |
| 47 | 1SG20BT053 | SUDIKSHA K KUMAR           |   |
| 48 | 1SG20BT054 | SUSHMA S                   |  |
| 49 | 1SG20BT055 | SWATHI BHARADWAJ R         |  |




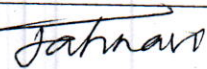
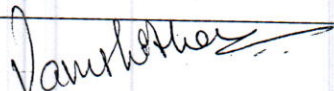
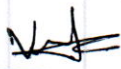
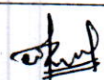
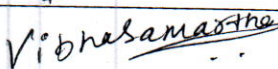

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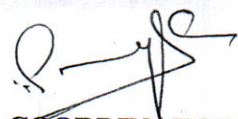
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|    |            |                    |  |
|----|------------|--------------------|--|
| 50 | 1SG20BT056 | TANU KUMAR C       |   |
| 51 | 1SG20BT057 | UPPUTURI JAHAVI    |   |
| 52 | 1SG20BT058 | VAMSHITHA R SHETTY |   |
| 53 | 1SG20BT059 | VARSHITHA N R      |   |
| 54 | 1SG20BT060 | VARUN S            |   |
| 55 | 1SG20BT061 | VIBHA SAMARTHA     |   |
| 56 | 1SG20BT010 | BHOOMIKA . B.V .   |  |

  
COORDINATOR

  
HOD, BT  
Head of the Department  
Dept. of Bio -Technology  
Sapthagiri College of Engineering  
No. 57/1, Chikkasandra  
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## Department of Biotechnology

### Certification Course on “R Programming for Biotechnologists”

#### Attendance

| Sl No. | USN        | Student Name     | 18/12/23 |    | 19/12/23 |    | 20/12/23 |    | 21/12/23 |    | 22/12/23 |    |
|--------|------------|------------------|----------|----|----------|----|----------|----|----------|----|----------|----|
|        |            |                  | MS       | AS | MS       | AS | MS       | AS | MS       | AS | MS       | AS |
| 1.     | 1SG20BT001 | AASTHA ROY       |          |    |          |    |          |    |          |    |          |    |
|        | 1SG20BT002 | ABDUL SAMAD      |          |    |          |    |          |    |          |    |          |    |
| 3.     | 1SG20BT003 | AISHWARYA B.L    |          |    |          |    |          |    |          |    |          |    |
| 4.     | 1SG20BT004 | ALICE JENNIFER   |          |    |          |    |          |    |          |    |          |    |
| 5.     | 1SG20BT005 | AMINA FARHEEN    |          |    |          |    |          |    |          |    |          |    |
| 6.     | 1SG20BT006 | AMOGHA VARSHA    |          |    |          |    |          |    |          |    |          |    |
| 7.     | 1SG20BT007 | ANANYA B.S       |          |    |          |    |          |    |          |    |          |    |
| 8.     | 1SG20BT008 | TRINAYANI        |          |    |          |    |          |    |          |    |          |    |
| 9.     | 1SG20BT009 | ASFIA SUTTANA    |          |    |          |    |          |    |          |    |          |    |
| 10.    | 1SG20BT011 | CHAITHRA SHREE A |          |    |          |    |          |    |          |    |          |    |
| 11.    | 1SG20BT012 | CHETAN KAGINELLI |          |    |          |    |          |    |          |    |          |    |
| 12.    | 1SG20BT013 | CHETHANA R       |          |    |          |    |          |    |          |    |          |    |
| 13.    | 1SG20BT014 | DANUSH P         |          |    |          |    |          |    |          |    |          |    |
| 14.    | 1SG20BT015 | DEEKSHITHA M     |          |    |          |    |          |    |          |    |          |    |
| 15.    | 1SG20BT016 | DEEPIKA PRAKASH  |          |    |          |    |          |    |          |    |          |    |



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|-----|------------|------------------------|--|--|--|--|--|--|--|--|--|--|
| 16. | 1SG20BT018 | DHANUSH HALLIKAR S     |  |  |  |  |  |  |  |  |  |  |
| 17. | 1SG20BT019 | DHARANI G              |  |  |  |  |  |  |  |  |  |  |
| 18. | 1SG20BT020 | DIVYA K N              |  |  |  |  |  |  |  |  |  |  |
| 19. | 1SG20BT021 | G L NIKHIL KUMAR REDDY |  |  |  |  |  |  |  |  |  |  |
| 20. | 1SG20BT022 | GANAVI N               |  |  |  |  |  |  |  |  |  |  |
| 21. | 1SG20BT023 | GAYATHRI S             |  |  |  |  |  |  |  |  |  |  |
| 22. | 1SG20BT024 | HARSHITHA REDDY G      |  |  |  |  |  |  |  |  |  |  |
| 23. | 1SG20BT025 | J JOYLYNN GRACE        |  |  |  |  |  |  |  |  |  |  |
| 24. | 1SG20BT027 | K NARAHARI             |  |  |  |  |  |  |  |  |  |  |
| 25. | 1SG20BT029 | KHUSHI BHAVANI K SINGH |  |  |  |  |  |  |  |  |  |  |
| 26. | 1SG20BT030 | KRUTHI J               |  |  |  |  |  |  |  |  |  |  |
| 27. | 1SG20BT031 | NAMITA KRISHNAKUMAR    |  |  |  |  |  |  |  |  |  |  |
| 28. | 1SG20BT033 | NESARA M               |  |  |  |  |  |  |  |  |  |  |
| 29. | 1SG20BT034 | NIRANJAN M             |  |  |  |  |  |  |  |  |  |  |
| 30. | 1SG20BT035 | NISCHITHA K S          |  |  |  |  |  |  |  |  |  |  |
| 31. | 1SG20BT036 | NITHEESH S             |  |  |  |  |  |  |  |  |  |  |
| 32. | 1SG20BT037 | P SWATHI               |  |  |  |  |  |  |  |  |  |  |
| 33. | 1SG20BT038 | POOJA M                |  |  |  |  |  |  |  |  |  |  |



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|-----|------------|----------------------------|--|--|--|--|--|--|--|--|--|--|--|
| 34. | 1SG20BT039 | PRATHIKSHA GS              |  |  |  |  |  |  |  |  |  |  |  |
| 35. | 1SG20BT040 | PRAVALIKA KV               |  |  |  |  |  |  |  |  |  |  |  |
| 36. | 1SG20BT041 | PRIYANKA V                 |  |  |  |  |  |  |  |  |  |  |  |
| 37. | 1SG20BT042 | RAKSHA K                   |  |  |  |  |  |  |  |  |  |  |  |
| 38. | 1SG20BT043 | RAKSHA S                   |  |  |  |  |  |  |  |  |  |  |  |
| 39. | 1SG20BT044 | RAKSHITH R                 |  |  |  |  |  |  |  |  |  |  |  |
| 40. | 1SG20BT045 | RANJITHA C M               |  |  |  |  |  |  |  |  |  |  |  |
| 41. | 1SG20BT046 | RUMANA BANU                |  |  |  |  |  |  |  |  |  |  |  |
| 42. | 1SG20BT047 | S N MEGHA MOURYA<br>NANDAN |  |  |  |  |  |  |  |  |  |  |  |
| 43. | 1SG20BT049 | SANJANA S S                |  |  |  |  |  |  |  |  |  |  |  |
| 44. | 1SG20BT050 | SAVITHA M                  |  |  |  |  |  |  |  |  |  |  |  |
| 45. | 1SG20BT051 | SHARON RAJ                 |  |  |  |  |  |  |  |  |  |  |  |
| 46. | 1SG20BT052 | SMRITHI B                  |  |  |  |  |  |  |  |  |  |  |  |
| 47. | 1SG20BT053 | SUDIKSHA K KUMAR           |  |  |  |  |  |  |  |  |  |  |  |
| 48. | 1SG20BT054 | SUSHMA S                   |  |  |  |  |  |  |  |  |  |  |  |
| 49. | 1SG20BT055 | SWATHI BHARADWAJ R         |  |  |  |  |  |  |  |  |  |  |  |
| 50. | 1SG20BT056 | TANU KUMAR C               |  |  |  |  |  |  |  |  |  |  |  |



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## Department of Biotechnology

|     |            |                    |           |           |           |           |           |           |           |           |           |           |           |
|-----|------------|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 51. | 1SG20BT057 | UPPUTURI JAHNAVI   | Jahnavi   | Jahna     | Jah       | Jah       | Jah       | Jah       | Jah       | Jah       | Jah       | Jah       | Jah       |
| 52. | 1SG20BT058 | VAMSHITHA R SHETTY | Vamshitha | Vamsh     | Vamsh     | Vamsh     | Vamsh     | Vamsh     | Vamsh     | Vamsh     | Vamsh     | Vamsh     | Vamsh     |
| 53. | 1SG20BT059 | VARSHITHA N R      | Varshitha | Varshitha | Varshitha | Varshitha | Varshitha | Varshitha | Varshitha | Varshitha | Varshitha | Varshitha | Varshitha |
| 54. | 1SG20BT060 | VARUN S            | Varun     | Varun     | Varun     | Varun     | Varun     | Varun     | Varun     | Varun     | Varun     | Varun     | Varun     |
|     | 1SG20BT061 | VIBHA SAMARTHA     | Vibha     | Vibha     | Vibha     | Vibha     | Vibha     | Vibha     | Vibha     | Vibha     | Vibha     | Vibha     | Vibha     |
| 56  | 1SG20BT010 | BHOOMIKA           | Bhoomika  | Bhoomika  | Bhoomika  | Bhoomika  | Bhoomika  | Bhoomika  | Bhoomika  | Bhoomika  | Bhoomika  | Bhoomika  | Bhoomika  |

COORDINATOR

HOD, BT

Head of the Department  
Dept. of Bio-Technology  
Sapthagiri College of Engineering  
No. 57/1, Chikkasandra  
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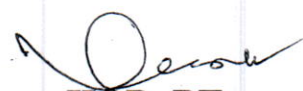
## Department of Biotechnology

### Certification Course on “R Programming for Biotechnologists”

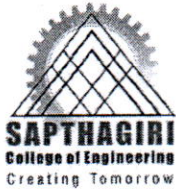
#### Test Time Table

| Sl. No. | DATE       | DAY    | TIMINGS         |
|---------|------------|--------|-----------------|
| 1       | 22/12/2023 | Friday | 5.30 to 6.30 PM |

  
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Head of the Department  
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## Department of Biotechnology

### CERTIFICATE COURSE ON R Programming for Biotechnologists

#### QUESTION PAPER

Date: 22/12/2023

Duration: 1hr

Maximum marks: 20

Note: Question number 1-20 (1M each)

1. \_\_\_\_\_ programming language is a dialect of S.  
a) B b) C c) R d) K
2. In 1991, R was created by Ross Ihaka and Robert Gentleman in the Department of Statistics at the University of \_\_\_\_\_.  
a) John Hopkins b) California c) Harvard d) Auckland
3. Finally, in \_\_\_\_\_ R version 1.0.0 was released to the public.  
a) 2000 b) 2005 c) 2010 d) 2012
4. What type of programming language is R?  
A) Statistical B) General-purpose C) Scripting D) Object-oriented
5. What was R based on?  
A) C++ B) S C) Java D) Python
6. What function in R can be used to generate a sequence of numbers?

  
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A) Seq ( ) B) Gen( ) C) create Sequence( ) D) list Numbers( )

7. What symbol is used in R for commenting out a line of code?

A) # B) // C) – D) %

8. Which data type in R is used to store true or false values?

A) Integer B) Logical C) Character D) Double

9. In R, which function is used to check the data type of a variable?

A) Type ( ) B) Type of ( ) C) Data type ( ) D) var Type ( )

10. Which operator is used to assign values in R?

A) <- B) = C) => D) :=

11. How do you declare a constant in R?

A) Using the const keyword B) By assigning a value once C) Using the define keyword D) By using the constant ( ) function

12. Which function in R can be used to create a vector of consecutive integers from 1 to 10?

A) C (1:10) B) Seq (1, 10) C) Vector (1, 10) D) Range(1, 10)

13. If an R script is not executing as expected and there is no error message, what might be the issue?

A) The script is saved in the wrong format B) There is an infinite loop C) The code is commented out D) All libraries are not loaded

  
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14. What type of data structure is a vector in R?

A) Single-element B) Homogeneous C) Heterogeneous D) Multi-dimensional

15. How do you access the 3<sup>rd</sup> element of a vector named 'vec' in R?

A) Vec [3] B) Vec (3) C) Vec {3} D) Vec<3>

16. What is the main difference between a list and a vector in R?

A) List can only contain numeric data B) Vectors can contain mixed data types C) Lists are 1-dimensional

D) Lists can contain elements of different types

17. What function would you use to create a vector of all even numbers from 2 to 20 in R?

A) Seq(2, 20, by=2) B) Even(2, 20) C) Range(2, 20, step=2) D) Vec\_even(2, 20)

18. How do you convert a vector to a list in R?

A) As.list ( ) B) To.list ( ) C) Convert.list ( ) D) Make.list ( )

19. Which function is most appropriate for adding a new column to a data frame in R?

A) Append ( ) B) Insert ( ) C) \$ operator D) Add ( )

20. Which control structure allows repeating a set of commands a fixed number of times in R?

A) While loop B) For loop C) If-else statement D) Repeat loop

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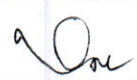
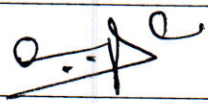
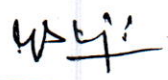
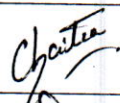

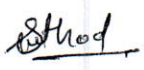

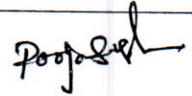
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## Department of Biotechnology

Approved by Academic Committee members and Guest speaker:

| SL. NO. | Faculty member    | Designation         | Signature   |
|---------|-------------------|---------------------|---|
| 1       | Dr. Veena S More  | HOD & Professor     |    |
| 2       | Dr Soumya C       | Assistant Professor |    |
| 3       | Dr Gouri Mirji    | Assistant Professor |    |
| 4       | Dr. Chaitra B S   | Assistant Professor |   |
| 5       | Dr Vishwanathan   | Resource Person     |  |
| 6       | Ms Shilpa         | Resource Person     |  |
| 7       | Ms Padhmeni Priya | Resource Person     |  |
| 8       | Ms Pooja Singh    | Resource Person     |  |

  
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### Certification Course on “R Programming for Biotechnologists”

#### Solutions for the Questions

Duration: 1hr

Maximum marks: 20

|           |   |
|-----------|---|
| ANSWER 1  | C |
| ANSWER 2  | D |
| ANSWER 3  | D |
| ANSWER 4  | A |
| ANSWER 5  | B |
| ANSWER 6  | A |
| ANSWER 7  | A |
| ANSWER 8  | B |
| ANSWER 9  | B |
| ANSWER 10 | A |
| ANSWER 11 | B |
| ANSWER12  | A |
| ANSWER 13 | C |
| ANSWER14  | B |
| ANSWER 15 | A |
| ANSWER 16 | D |
| ANSWER 17 | A |
| ANSWER 18 | A |
| ANSWER 19 | C |
| ANSWER20  | B |

  
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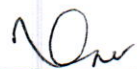

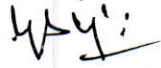
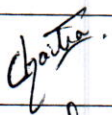
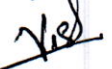
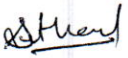
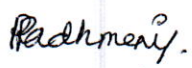
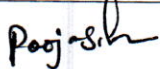
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## Department of Biotechnology

Scheme and Solutions approved by Academic Committee members:

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## Department of Biotechnology

### Certification Course on “R Programming for Biotechnologists”

#### Participant Feedback

1. How was the overall organization of the Certification Course?  
a) Poor b) Satisfactory c) Good ☒ d) Excellent
2. How appropriate were the facilities provided?  
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8. Any Suggestions:  

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Student Name: UPPUTURI JAHNAVI

Student Signature: *Jahnavi*

*Jahnavi*  
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8. Any Suggestions:

Student Name: VARSHITHA. NR

Student Signature: *Varshitha. NR*

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Student Name: ANANYA

Student Signature: 

  
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8. Any Suggestions:  
\_\_\_\_\_

Student Name: A. Trinayani Reddy

Student Signature: \_\_\_\_\_

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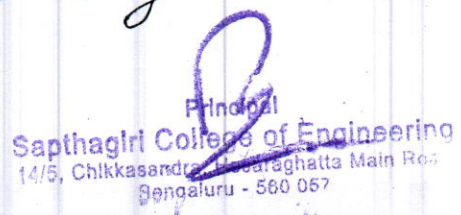
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8. Any Suggestions:  

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Student Name: G.L. Nikhil Reddy

Student Signature: [Signature]

  
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Phone: 080-28372800/1/2 www.sapthagiri.edu.in Fax: 080-28372797

## Department of Biotechnology

### Certification Course on “R Programming for Biotechnologists”

#### Participant Feedback

1. How was the overall organization of the Certification Course?  
a) Poor b) Satisfactory c) Good ☒ d) Excellent
2. How appropriate were the facilities provided?  
a) Poor b) Satisfactory ☒ c) Good d) Excellent
3. Opportunity to ask questions for clarification and interaction with presenters  
a) Poor b) Satisfactory c) Good ☒ d) Excellent
4. Effectiveness of the Hands-on Sessions  
a) Poor b) Satisfactory c) Good ☒ d) Excellent
5. Topic and contents of the Certification Course  
a) Poor b) Satisfactory c) Good ☒ d) Excellent
6. How do you rate the Certification Course compared to other workshops that you have attended?  
a) Poor b) Satisfactory c) Good ☒ d) Excellent
7. Generally how was your overall experience during the Certification Course  
a) Poor b) Satisfactory c) Good ☒ d) Excellent
8. Any Suggestions:  
\_\_\_\_\_  
\_\_\_\_\_

Student Name:

Divya.k.N

Student Signature:

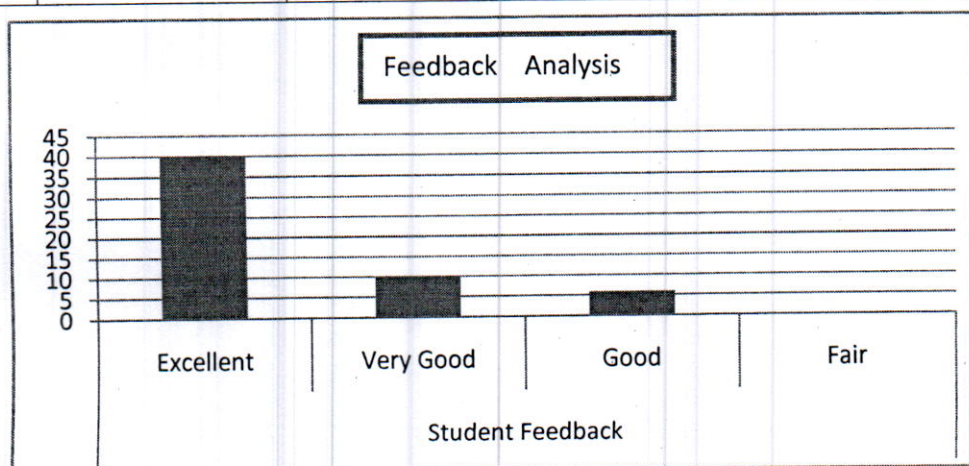
  
Principal  
Sapthagiri College of Engineering  
#14/5, Chikkasandra, Hesaraghatta Main Road  
Bengaluru - 560 057



### FEEDBACK ANALYSIS

Certification Programme: “R Programming for Biotechnologists”

| No. of students participated | Student Feedback |           |      |      |
|------------------------------|------------------|-----------|------|------|
|                              | Excellent        | Very Good | Good | Fair |
| 56                           | 40               | 10        | 6    | 0    |



#### Action Report:


80 % of students were completely happy with the certification program and 13% of students felt it was a good program and remaining 7 % students were satisfied with the program.

#### Action Taken:

The Feedback report which was collected from the students was sent to the principal and he would take necessary actions based on the comments and conduct more programs for the benefit of students.

Program Coordinator

  
 Principal  
 Sapthagiri College of Engineering  
 14/5, Chikkasandra, Hesaraghatta Main Road  
 Bengaluru - 560 057

  
 HOD, BT  
 Head of the Department  
 Dept. of Bio -Technology  
 Sapthagiri College of Engineering  
 No. 57/1, Chikkasandra  
 Hesaraghatta Main Road  
 Bangalore -57



**SAPTHAGIRI COLLEGE OF ENGINEERING, BENGALURU-57**

**DEPARTMENT OF BIOTECHNOLOGY**

**CERTIFICATE COURSE**

**ON**

**R PROGRAMMING FOR BIOTECHNOLOGISTS**

**In association with**

**Mediomix Diagnosis and Bioresearch Pvt Ltd, Bengaluru 560010**

**This is to Certify**

**Ms/Mr -----**

**Of VII semester Biotechnology has successfully completed a Five Days  
Certification Course on R Programming for Biotechnologists from 18<sup>th</sup>  
December 2023 to 22<sup>nd</sup> December 2023 at Sapthagiri College of  
Engineering, Bangalore- 560057**

**Dr. Soumya C**  
Chief Coordinator

**Ms Pooja Singh**  
Genisys Group

Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hesaraghatta Main Road  
Bengaluru - 560057

**Director**  
Mediomix Diagnosis  
and Bioresearch Pvt Ltd

**Dr. Veena S More**  
HOD, BT

**Dr. Ramakrishna H**  
Principal SCE



SAPTHAGIRI COLLEGE OF ENGINEERING, BENGALURU-57

DEPARTMENT OF BIOTECHNOLOGY



CERTIFICATE COURSE  
ON

R PROGRAMMING FOR BIOTECHNOLOGISTS

In association with

Mediomix Diagnosis and Bioresearch Pvt Ltd, Bengaluru 560010

This is to Certify

Ms/Mr ----- MURANJAN.M -----

Of VII semester Biotechnology has successfully completed a Five Days  
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December 2023 to 22<sup>nd</sup> December 2023 at Sapthagiri College of  
Engineering, Bangalore- 560057

Dr. Soumya C  
Chief Coordinator

Ms Pooja Singh  
Genisys Group

Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Bengaluru Main Road  
Bengaluru 560057  
Director  
Mediomix Diagnosis  
and Bioresearch Pvt Ltd

Dr. Veena S More  
HOD, BT

Dr. Ramakrishna H  
Principal SCE





**SRISRINIVASA EDUCATIONAL & CHARITABLE TRUST®**  
**SAPTHAGIRI COLLEGE OF ENGINEERING**

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#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru - 560057.

**Department of Biotechnology**

Academic Year: 2023-2024

**Certificate Course – R Programming for Biotechnologists**  
**Post Event Report**

|                                  |   |
|----------------------------------|---|
| *Type of event/activity          | Certificate Course  |
| Name/Title of the Activity/Event | <b>R Programming for Biotechnologists</b>   |
| Date of Organization             | 18 <sup>th</sup> December 2023 to 22 December 2023  |
| Venue                            | Computer lab  |
| Resource Person                  | <b>Dr Vishwanathan</b><br>Senior Scientific Officer, Mediomix Diagnosis and Bioresearch Pvt Ltd. Bangalore<br><br><b>Ms. Padhmeni Priya</b><br>Mediomix Diagnosis and Bioresearch Pvt, Ltd. Bangalore<br><br><b>Ms. Shilpa</b><br>Mediomix Diagnosis and Bioresearch Pvt Ltd. Bangalore<br><br><b>Ms. Pooja Singh</b><br>Quality Data Operations and Management, Genisys Group                              |
| Objectives of the event/activity | The objective of this module is to make students exercise the fundamentals of statistical analysis in R environment. They would be able to analyze data for the purpose of exploration using Descriptive and Inferential Statistics. Students will understand Probability and Sampling Distributions and learn the creative application of Linear Regression in multivariate context for predictive purpose |
| Participants                     | BT Students   |
| Organized By                     | Dr Soumya C<br>Assistant Professor,<br>Biotechnology Department   |

Principal

Sapthagiri College of Engineering  
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## Department of Biotechnology

Academic Year: 2023-2024

### Event Description:

Course was conducted with title of "R Programming for Biotechnologists." The following module comprises of R programming basics and application of several Statistical Techniques using it. The module aims to provide exposure in terms of Statistical Analysis, Hypothesis Testing, Regression and Correlation using R programming language. To develop an advance innovation and growth mindset form of problem identification For all the Students of Department of Biotechnology, Sapthagiri College of Engineering, Bangalore on 18<sup>th</sup> December 2023 to 22<sup>nd</sup> December 2023.

### Syllabus and Schedule of the certification program

| Date       | Time              | Topics   |
|------------|-------------------|--|
| 18/12/2023 | 8:30 AM – 4.30 PM | Introduction to R Programming language, Fundamentals |
| 19/12/2023 | 8:30 AM – 4.30 PM | Variables, Scope, Input and Output, Data types       |
| 20/12/2023 | 8:30 AM – 4.30 PM | Data Structure                                       |
| 21/12/2023 | 8:30 AM – 4.30 PM | Vectors  |
| 22/12/2023 | 8:30 AM – 4.30 PM | Matrices, Application                                |

### Brochure



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14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru-560057

**DEPARTMENT OF BIOTECHNOLOGY**  
The Institute of Engineers (India) Student Chapter

**FIVE DAYS CERTIFICATE COURSE ON**  
**R PROGRAMMING**  
By  
**Dr. Vishwanathan**, Senior Scientific Officer  
Mediomix Diagnosis and Bioresearch Pvt Ltd. Bangalore  
**Ms. Padhmeni Priya**  
Mediomix Diagnosis and Bioresearch Pvt. Ltd. Bangalore  
**Ms. Shilpa**  
Mediomix Diagnosis and Bioresearch Pvt Ltd. Bangalore  
**Ms. Pooja Singh**  
Quality Data Operations and Management, Genisys Group  
Shri. G Dayanand  
Chairman, SCE  
Shri. G D Manoj  
Managing Director, SCE

Dr. Chaitra B S  
IEI Convener  
Dr. Soumya C  
Faculty Coordinator  
Dr. Veena S More  
HOD, BT  
Dr. H Ramakrishna  
Principal

Principal  
Sapthagiri College of Engineering  
#14/5, Chikkasandra, Hesaraghatta Main Road  
Bengaluru - 560 057





**Images**



Conclusion: A program of education resulting in a certificate of completion rather than a degree. These programs prepare students to complete a specific task or allow them proficiency in one of the particular aspect of their field. Students were benefit with programming skills .Students pursues certificates in order to get ahead in the professional field of their interest.

  
**Coordinator**

  
**HOD, BT**  
**Head of the Department**  
**Dept. of Bio -Technology**  
**Sapthagiri College of Engineering**  
**No. 57/1, Chikkasandra**  
**Hesaraghatta Main Road**  
**Bangalore -57**

  
**Principal**  
**Sapthagiri College of Engineering**  
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