



ESTD : 2007

# Sri Indu Institute of Engineering and Technology (Autonomous)

(Formerly RVR Institute of Engineering & Technology )

**An Autonomous Institution Under UGC**

NAAC Accredited. Recognized Under 2(f) of UGC Act 1956

EAMCET CODE: INDI

Approved by AICTE, New Delhi, & Affiliated to JNTUH, Hyderabad.

JNTUH CODE: X3



## COURSE FILE

ON

### Python Programming lab

Course Code – CS201ES

I B.Tech II-SEMESTER


A.Y.: 2022-2023

Prepared by

Mr. P. BALU

Assistant Professor

  
Head of the Department  
Department of H&S  
SRI INDU INSTITUTE OF ENGG & TECH  
Sheriguda(VII), Ibrahimpatnam (M) R.R. Dist-501510

  
PRINCIPAL  
Sri Indu Institute of Engineering & Tech.  
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R.R. Dist. Telangana-501 510.



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|   |                                 |
|---|---------------------------------|
| <b>Name of the Physical laboratory:</b> | PYTHON PROGRAMMING LABORATORY   |
| <b>Course code</b>                      | CS201ES                         |
| <b>Room No</b>                          | D-007                           |
| <b>Name of the lab incharge</b>         | Mrs.M.TEJASWI                   |
| <b>Name of the faculty incharge</b>     | Mr. P.BALU, Assistant Professor |

## Index of Lab File

| S. No. | Name of the content                          |
|--------|--|
| 1      | Institute vision and mission                 |
| 2      | POs /PSOs                                    |
| 3      | Programme outcomes                           |
| 4      | Course Syllabus with Structure               |
| 5      | Course Outcomes (CO) and CO-PO mapping       |
| 6      | List of experiments and their CO, PO mapping |
| 7      | Time table                                   |
| 8      | Model Practical End examination questions    |
| 9      | Schedule of end practical examinations       |
| 10     | List of examiners                            |
| 11     | Lab occupancy chart                          |
| 12     | Dos and Don'ts                               |
| 13     | Physical lab floor plan with area in Sq.m    |
| 14     | Lab manual                                   |
| 15     | CO-PO Attainments                            |



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## INSTITUTE VISION & MISSION

### Vision:

To become a premier institute of academic excellence by providing the world class education that transforms individuals into high intellectuals, by evolving them as empathetic and responsible citizens through continuous improvement.

### Mission:

- **IM1:** To offer outcome-based education and enhancement of technical and practical skills.
- **IM2:** To Continuous assess of teaching-learning process through institute-industry collaboration.
- **IM3:** To be a centre of excellence for innovative and emerging fields in technology development with state-of-art facilities to faculty and students' fraternity.
- **IM4:** To Create an enterprising environment to ensure culture, ethics and social responsibility among the stakeholders.

  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### PROGRAM EDUCATIONAL OBJECTIVES

To develop trained graduates with strong academic and technical skills of modern computer science and engineering.

**PEO2:** To promote trained graduates with leadership qualities and the ability to solve real time problems using current techniques and tools in interdisciplinary environment.

**PEO3:** To motivate the graduates towards lifelong learning through continuing education and professional development.

### PROGRAM SPECIFIC OUTCOMES

**PSO1 : Professional Skills:** To implement computer programs of varying complexity in the areas related to Web Design, Cloud Computing, Network Security and Artificial Intelligence.

**PSO2: Problem-Solving Skills:** To develop quality products using open ended programming environment.

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# SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

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Khalsa Ibrahimpatnam, Sheriguda (V), Ibrahimpatnam (M), Ranga Reddy Dist., Telangana – 501 510

Website: <https://siiet.ac.in/>

## PROGRAMME OUTCOMES

**PO1: Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**PO2: Problem Analysis:** Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

**PO3: Design / Development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**PO4: Conduct Investigations of Complex Problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

**PO5: Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

**PO6: The Engineer & Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

**PO7: Environment & Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**PO8: Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**PO9: Individual & Team Work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**PO10: Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, give and receive clear instructions.

**PO11: Project Management & Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**PO12: Life-Long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

  
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## SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

### B.Tech. in COMPUTER SCIENCE AND ENGINEERING (CYBER SECURITY)

#### COURSE STRUCTURE

#### I YEAR SYLLABUS (BR22 Regulations)

Applicable from Academic Year: 2022-23 Batch

#### I Year II Semester

| S. No. | Course Code | Course   | L         | T        | P         | Credits   |
|--------|-------------|--|-----------|----------|-----------|-----------|
| 1.     | MA201BS     | Ordinary Differential Equations and Vector Calculus  | 3         | 1        | 0         | 4         |
| 2.     | AP202BS     | Applied Physics                                      | 3         | 1        | 0         | 4         |
| 3.     | ME202ES     | Engineering Workshop                                 | 0         | 1        | 3         | 2.5       |
| 4.     | EN204HS     | English for Skill Enhancement                        | 2         | 0        | 0         | 2         |
| 5.     | EC201ES     | Electronic Devices and Circuits                      | 2         | 0        | 0         | 2         |
| 6.     | AP205BS     | Applied Physics Laboratory                           | 0         | 0        | 3         | 1.5       |
| 7.     | CS201ES     | Python Programming Laboratory                        | 0         | 1        | 2         | 2         |
| 8.     | EN207HS     | English Language and Communication Skills Laboratory | 0         | 0        | 2         | 1         |
| 9.     | CS203ES     | IT Workshop  | 0         | 0        | 2         | 1         |
| 10.    | *MC201ES    | Environmental Science                                | 3         | 0        | 0         | 0         |
|        |             | <b>Total</b>   | <b>13</b> | <b>4</b> | <b>12</b> | <b>20</b> |



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## PYTHON PROGRAMMING LABORATORY

(Course Code: CS201ES)

B.Tech. I Year II Sem.

L T P C

0 1 2 2

### Course Objectives:

- To install and run the Python interpreter
- To learn control structures.
- To Understand Lists, Dictionaries in python
- To Handle Strings and Files in Python

**Course Outcomes:** After completion of the course, the student should be able to

- Develop the application specific codes using python.
- Understand Strings, Lists, Tuples and Dictionaries in Python
- Verify programs using modular approach, file I/O, Python standard library
- Implement Digital Systems using Python

Note: The lab experiments will be like the following experiment examples

### Week -1:

1. i) Use a web browser to go to the Python website <http://python.org>. This page contains information about Python and links to Python-related pages, and it gives you the ability to search the Python documentation.  
ii) Start the Python interpreter and type `help()` to start the online help utility.
2. Start a Python interpreter and use it as a Calculator.
3.
  - i) write a program to calculate compound interest when principal, rate and number of periods are given.
  - ii) Given coordinates  $(x_1, y_1)$ ,  $(x_2, y_2)$  find the distance between two points

4. Read name, address, email and phone number of a person through keyboard and print the details.

### **Week - 2:**

1. Print the below triangle using for loop.

```
5
4 4
3 3 3
2 2 2 2
1 1 1 1 1
```

2. Write a program to check whether the given input is digit or lowercase character or uppercase character or a special character (use 'if-else-if' ladder)
3. Python Program to Print the Fibonacci sequence using while loop
4. Python program to print all prime numbers in a given interval (use break)

### **Week - 3:**

1. i) Write a program to convert a list and tuple into arrays.  
ii) Write a program to find common values between two arrays.
2. Write a function called gcd that takes parameters a and b and returns their greatest common divisor.
3. Write a function called palindrome that takes a string argument and returns True if it is a palindrome and False otherwise. Remember that you can use the built-in function len to check the length of a string.

### **Week - 4:**

1. Write a function called is\_sorted that takes a list as a parameter and returns True if the list is sorted in ascending order and False otherwise.
2. Write a function called has\_duplicates that takes a list and returns True if there is any element that appears more than once. It should not modify the original list.
  - i). Write a function called remove\_duplicates that takes a list and returns a new list with only the unique elements from the original. Hint: they don't have to be in the same order.
  - ii). The wordlist I provided, words.txt, doesn't contain single letter words. So you might want to add "I", "a", and the empty string.
  - iii). Write a python code to read dictionary values from the user. Construct a function to invert its content. i.e., keys should be values and values should be keys.
3. i) Add a comma between the characters. If the given word is 'Apple', it should become 'A,p,p,l,e'  
ii) Remove the given word in all the places in a string?  
iii) Write a function that takes a sentence as an input parameter and replaces the first letter of every word with the corresponding upper case letter and the rest of the letters in the word by corresponding letters in lower case without using a built-in function?
4. Write a recursive function that generates all binary strings of n-bit length



## Week - 5:

- i) Write a python program that defines a matrix and prints
- ii) Write a python program to perform addition of two square matrices
- iii) Write a python program to perform multiplication of two square matrices
2. How do you make a module? Give an example of construction of a module using different geometrical shapes and operations on them as its functions.
3. Use the structure of exception handling all general purpose exceptions.

## Week-6:

- a. Write a function called `draw_rectangle` that takes a Canvas and a Rectangle as arguments and draws a representation of the Rectangle on the Canvas.
- b. Add an attribute named `color` to your Rectangle objects and modify `draw_rectangleso` that it uses the `color` attribute as the fill color.
- c. Write a function called `draw_point` that takes a Canvas and a Point as arguments and draws a representation of the Point on the Canvas.
- d. Define a new class called Circle with appropriate attributes and instantiate a few Circle objects. Write a function called `draw_circle` that draws circles on the canvas.
2. Write a Python program to demonstrate the usage of Method Resolution Order (MRO) in multiple levels of Inheritances.
3. Write a python code to read a phone number and email-id from the user and validate it for correctness.

## Week- 7

1. Write a Python code to merge two given file contents into a third file.
2. Write a Python code to open a given file and construct a function to check for given words present in it and display on found.
3. Write a Python code to Read text from a text file, find the word with most number of occurrences
4. Write a function that reads a file *file1* and displays the number of words, number of vowels, blankspaces, lower case letters and uppercase letters.

## Week - 8:

1. Import numpy, Plotpy and Scipy and explore their functionalities.
2. a) Install NumPy package with pip and explore it.
3. Write a program to implement Digital Logic Gates – AND, OR, NOT, EX-OR
4. Write a program to implement Half Adder, Full Adder, and Parallel Adder
5. Write a GUI program to create a window wizard having two text labels, two text fields and two buttons as Submit and Reset.

**TEXT BOOKS:**

1. Supercharged Python: Take your code to the next level, Overland
2. Learning Python, Mark Lutz, O'reilly

**REFERENCE BOOKS:**

1. Python Programming: A Modern Approach, Vamsi Kurama, Pearson
2. Python Programming A Modular Approach with Graphics, Database, Mobile, and WebApplications, Sheetal Taneja, Naveen Kumar, Pearson
3. Programming with Python, A User's Book, Michael Dawson, Cengage Learning, India Edition
4. Think Python, Allen Downey, Green Tea Press
5. Core Python Programming, W. Chun, Pearson
6. Introduction to Python, Kenneth A. Lambert, Cengage.



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## COURSE OUTCOMES

**Course Name: PYTHON PROGRAMMING LABORATORY(C127)**

At the End of the course, student will be able to

| CO No  | DESCRIPTION   |
|--------|---|
| C127.1 | Develop the application specific codes using python. (Applying)                 |
| C127.2 | Understand Strings, Lists, Tuples and Dictionaries in Python. (Understanding)   |
| C127.3 | Understand Functions in Python. (Understanding)                                 |
| C127.4 | Evaluate programs using modular approach , MRO,Exception Handling.( Evaluating) |
| C127.5 | Evaluate programs using Python standard library, file I/O. ( Evaluating)        |
| C127.6 | Construct Digital Systems using Python.(Creating)                               |

## COs and POs & PSOs Mapping

| PO/PSO/<br>CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| C127.1        | 3   | 2   | -   | 1   | -   | -   | -   | -   | -   | -    | -    | 1    | 2    | 3    |
| C127.2        | 3   | -   | -   | 1   | 2   | -   | -   | -   | -   | -    | -    | 1    | -    | 2    |
| C127.3        | 3   | 2   | -   | 1   | -   | -   | -   | -   | 2   | -    | 2    | 1    | 1    | -    |
| C127.4        | -   | 3   | -   | 1   | 2   | -   | -   | -   | -   | -    | -    | 1    | -    | -    |
| C127.5        | -   | 3   | -   | 1   | -   | -   | -   | -   | -   | -    | -    | 1    | 1    | 1    |
| C127.6        | -   | -   | 3   | 1   | 2   | -   | -   | -   | 2   | -    | 2    | 1    | 2    | 1    |
| C127          | 3   | 2.5 | 3   | 1   | 2   | -   | -   | -   | 2   | -    | 2    | 1    | 1.5  | 1.7  |

3-High

2-Medium

1-Low



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## LIST OF EXPERIMENTS AND THEIR CO, PO MAPPING

| S. No | Name of The Experiment   | CO      | PO                         |
|-------|--|---------|----------------------------|
| 1     | <p>1. i) Use a web browser to go to the Python website <a href="http://python.org">http://python.org</a>. This page contains information about Python and links to Python-related pages, and it gives</p> <p>ii) Start the Python interpreter and type help() to start the online help utility.</p> <p>2. Start a Python interpreter and use it as a Calculator.</p> <p>3. i) write a program to calculate compound interest when principal, rate and number of periods are given.</p> <p>ii) Given coordinates (x1, y1), (x2, y2) find the distance between two points</p> <p>4. Read name, address, email and phone number of a person through keyboard and print the details.</p> | CO1     | PO1,PO2,PO4,PO12,PSO1,PSO2 |
| 2     | <p>1. Print the below triangle using for loop.</p> <pre>5 4 4 3 3 3 2 2 2 2 1 1 1 1 1</pre> <p>2. Write a program to check whether the given input is digit or lowercase character or uppercase character or a special character (use 'if-else-if' ladder)</p> <p>3. Python Program to Print the Fibonacci sequence using while loop</p> <p>4. Python program to print all prime numbers in a given interval (use break)</p>   | CO1     | PO1,PO2,PO4,PO12,PSO1,PSO2 |
| 3     | <p>1. i) Write a program to convert a list and tuple into arrays.</p>  | CO2,CO3 | PO1,PO2,PO4,               |

|                 |   |                        |  |
|-----------------|---|------------------------|--|
|                 | <p>ii) Write a program to find common values between two arrays.</p> <p>2. Write a function called gcd that takes parameters a and b and returns their greatest common divisor.</p> <p>3. Write a function called palindrome that takes a string argument and returns True if it is a palindrome and False otherwise. Remember that you can use the built-in function len to check the length of a string.</p>  |                        | <p><b>PO5,PO9,PO11,PO12,PSO1,PSO2</b></p>            |
| <p><b>4</b></p> | <p>1. Write a function called is_sorted that takes a list as a parameter and returns True if the list is sorted in ascending order and False otherwise.</p> <p>2. Write a function called has_duplicates that takes a list and returns True if there is any element that appears more than once. It should not modify the original list.</p> <p>i). Write a function called remove_duplicates that takes a list and returns a new list with only the unique elements from the original. Hint: they don't have to be in the same order.</p> <p>ii). The wordlist I provided, words.txt, doesn't contain single letter words. So you might want to add "I", "a", and the empty string.</p> <p>iii). Write a python code to read dictionary values from the user. Construct a function to invert its content. i.e., keys should be values and values should be keys.</p> <p>3. i) Add a comma between the characters. If the given word is 'Apple', it should become 'A,p,p,l,e'</p> <p>ii) Remove the given word in all the places in a string?</p> <p>iii) Write a function that takes a sentence as an input parameter and replaces the first letter of every word with the corresponding upper case letter and the rest of the letters in the word by corresponding letters in lower case without using a built-in function?</p> <p>4. Writes a recursive function that generates all binary strings of n-bit length</p> | <p><b>CO2,CO3</b></p>  | <p><b>PO1,PO2,PO4,PO5,PO9,PO11,PO12,PSO1PSO2</b></p> |
| <p><b>5</b></p> | <p>1. i) Write a python program that defines a matrix and prints</p> <p>ii) Write a python program to perform addition of two square matrices</p> <p>iii) Write a python program to perform multiplication of two square matrices</p> <p>2. How do you make a module? Give an example of construction of a module using different geometrical shapes and operations on them as its functions.</p> <p>3. Use the structure of exception handling all general purpose exceptions.</p>   | <p><b>CO4, CO5</b></p> | <p><b>PO2,PO4,PO5,PO12,PSO1,PSO2</b></p>             |
| <p><b>6</b></p> | <p>1. a. Write a function called draw_rectangle that takes a Canvas and a Rectangle as arguments and draws a representation of the Rectangle on the Canvas.</p> <p>b. Add an attribute named color to your Rectangle objects and modify draw_rectangle so that it uses the color attribute as the fill color.</p> <p>c. Write a function called draw_point that takes a Canvas and a Point as arguments and draws a representation of the Point on the Canvas.</p>  | <p><b>CO2,CO5</b></p>  | <p><b>PO1,PO2,PO4,PO5,PO12,PSO1,PSO2</b></p>         |



|   |   |             |  |
|---|---|-------------|--|
|   | <p>d. Define a new class called Circle with appropriate attributes and instantiate a few Circle objects. Write a function called draw_circle that draws circles on the</p> <p>2. Write a Python program to demonstrate the usage of Method Resolution Order (MRO) in multiple levels of Inheritances.</p> <p>3. Write a python code to read a phone number and email-id from the user and validate it for correctness.</p>                      |             |  |
| 7 | <p>1. Write a Python code to merge two given file contents into a third file.</p> <p>2. Write a Python code to open a given file and construct a function to check for given words present in it and display on found.</p> <p>3. Write a Python code to Read text from a text file, find the word with most number of occurrences</p>   | CO2,CO5     | PO1,PO2,PO4,PO5,PO12,PSO1,PSO2               |
| 8 | <p>1. Import numpy, Plotpy and Scipy and explore their functionalities.</p> <p>2. a) Install NumPy package with pip and explore it.</p> <p>3. Write a program to implement Digital Logic Gates – AND, OR, NOT, EX-OR</p> <p>4. Write a program to implement Half Adder, Full Adder, and Parallel Adder</p> <p>5. Write a GUI program to create a window wizard having two text labels, two text fields and two buttons as Submit and Reset.</p> | CO2,CO4,CO6 | PO1, PO2,PO3,PO4,PO5,PO9,PO11,PO12,PSO1,PSO2 |



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<https://siiet.ac.in/>

**Class:** CYBER SECURITY

**Semester:** II

**W.E.F-03-04-2023**

**LH:-D-207**

|            | <b>I</b><br>9:40-<br>10:30 | <b>II</b><br>10:30 -<br>11:20 | <b>III</b><br>11:20-<br>12:10 | 12:10-<br>12.45                  | <b>IV</b><br>12.45-<br>1.35 | <b>V</b><br>1.35-<br>2.25 | <b>VI</b><br>2.25-<br>3.15 | <b>VII</b><br>3.15-4.00  |
|------------|----------------------------|-------------------------------|-------------------------------|----------------------------------|-----------------------------|---------------------------|----------------------------|--------------------------|
| <b>MON</b> | ENG                        | AP                            | ODE                           | <b>L<br/>U<br/>N<br/>C<br/>H</b> | PYTHON LAB                  |                           |                            | EWS(T)/ PYTHON<br>LAB(T) |
| <b>TUE</b> | AP                         | ENG                           | ENG                           |                                  | ES                          | ODE                       | EDC                        | LIBRARY                  |
| <b>WED</b> | EWS/ELCS LAB               |                               |                               |                                  | AP                          | ODE                       | ENG                        | ES                       |
| <b>THU</b> | EDC                        | AP                            | ES                            |                                  | EWS/ELCS LAB                |                           |                            | ODE(T) /AP(T)            |
| <b>FRI</b> | EDC                        | ODE                           | ENG                           |                                  | ITWS/AP LAB                 |                           |                            | AP(T) /ODE(T)            |
| <b>SAT</b> | ITWS/EWS LAB               |                               |                               |                                  | ODE                         | AP                        | EDC                        | PYTHON LAB(T)/<br>EWS(T) |

| Course Code    | Course Name  | Name of the Faculty         | Course Code    | Course Name  | Name of the Faculty                                   |
|----------------|--|-----------------------------|----------------|--|---|
| <b>MA201BS</b> | ODE-Ordinary<br>Differential<br>Equations & Vector<br>Calculus | CH.SARITHA                  | <b>AP205BS</b> | APLAB-Applied<br>Phyics Laboratory                                     | Dr.B.NAGALAKSHMI/B<br>.SANTHI/M.MANISHA/<br>M.JANAIAH |
| <b>AP202BS</b> | AP-Applied Physics   | Dr.B.NAGALAKSHMI            | <b>CS201ES</b> | Python<br>Programming<br>Laboratory                                    | P.BALU/M.TEJASWI                                      |
| <b>EN204HS</b> | ENG- English for<br>Skill Enhancement                          | S.SWAPNA                    | <b>EN207HS</b> | ELCS LAB-English<br>Language and<br>Communication<br>Skills Laboratory | S.SWAPNA/D.ANAND<br>RAO                               |
| <b>EC201ES</b> | EDC-Electronics<br>Devices and<br>Circuits                     | B.ASHWINI                   | <b>CS203ES</b> | ITWS-IT Workshop   | B.RAJITHA/N.KEERTHI<br>CHANDANA                       |
| <b>ME202ES</b> | EWS-Engineering<br>Workshop                                    | MVB.KALYAN/B.SR<br>INU NAIK | <b>MC201ES</b> | ES-Environmental<br>Science  | G.VIJAY   |

*[Signature]*  
**Class In-Charge**

*[Signature]*  
**Time Table Coordinator**



*[Signature]*  
**Head of The Department**  
Sri Indu Institute of Engg. & Tech  
Main Road, Sheriguda(V),  
Ibrahimpattam(M), R.R. Dist.,  
Telangana-501 510



# SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

UGC Autonomous Institution, Accredited by NAAC with A+ Grade

Recognized under 2(f) of UGC Act 1956.

(Approved by AICTE, New Delhi and Affiliated to JNTUH, Hyderabad)

Sheriguda(V), Ibrahimpatnam(M), R.R Dist., Telangana – 501 510

**X3**

**BR22**

## Python Programming Lab

Year & Semester: I YR II sem Branch: CSE(CYBERSECURITY) Subject Name: **Python Programming Lab**

Faculty Name: P.BALU

---

## Python Programming Lab External

### SET-1

1. i) Write a python program that defines a matrix and prints  
ii) Write a python program to perform addition of two square matrices  
iii) Write a python program to perform multiplication of two square matrices
2. How do you make a module? Give an example of construction of a module using different geometrical shapes and operations on them as its functions.

### SET-2

1. Use the structure of exception handling all general purpose exceptions.
2. Write a function called draw\_rectangle that takes a Canvas and a Rectangle as arguments and draws a representation of the Rectangle on the Canvas.

### SET-3

1. Add an attribute named color to your Rectangle objects and modify draw\_rectangle so that it uses the color attribute as the fill color.
2. Write a function called draw\_point that takes a Canvas and a Point as arguments and draws a representation of the Point on the Canvas.

### SET-4

1. Define a new class called Circle with appropriate attributes and instantiate a few Circle objects. Write a function called draw\_circle that draws circles on the canvas.
2. Write a Python program to demonstrate the usage of Method Resolution Order (MRO) in multiple levels of Inheritances.

### SET-5

1. Write a python code to read a phone number and email-id from the user and validate it for correctness.
2. Write a Python code to merge two given file contents into a third file.

### SET-6

1. Write a Python code to open a given file and construct a function to check for given words present and display on found.
2. Write a Python code to Read text from a text file, find the word with most number of occurrences

### SET-7

1. Write a function that reads a file *file1* and displays the number of words, number of vowels, blankspaces, lower case letters and uppercase letters.
2. Import numpy, Plotpy and Scipy and explore their functionalities.
3. a) Install NumPy package with pip and explore it.

### SET-8

1. Write a program to implement Digital Logic Gates – AND, OR, NOT, EX-OR
2. Write a GUI program to create a window wizard having two text labels, two text fields and two buttons as Submit and Reset.

### SET 9

1. Start a Python interpreter and use it as a Calculator.
2.
  - i) Write a program to calculate compound interest when principal, rate and number of periods are given.
  - ii) Given coordinates (x1, y1), (x2, y2) find the distance between two points
  - iii) Read name, address, email and phone number of a person through keyboard and print the details.

### SET 10

1. Print the below triangle using for loop.

```
4 4
3 3 3
2 2 2 2
1 1 1 1 1
```
2. Write a program to check whether the given input is digit or lowercase character or uppercase character or a special character (use 'if-else-if' ladder)
3. Python Program to Print the Fibonacci sequence using while loop

### SET 11:

1. Python program to print all prime numbers in a given interval (use break)
2. i) Write a program to convert a list and tuple into arrays.  
ii) Write a program to find common values between two arrays.
3. Write a function called gcd that takes parameters a and b and returns their greatest common divisor.

### SET 12:

1. Write a function called `palindrome` that takes a string argument and returns `True` if it is a palindrome and `False` otherwise. Remember that you can use the built-in function `len` to check the length of a string.
2. Write a function called `is_sorted` that takes a list as a parameter and returns `True` if the list is sorted in ascending order and `False` otherwise.
3. Write a function called `has_duplicates` that takes a list and returns `True` if there is any element that appears more than once. It should not modify the original list.
  - i). Write a function called `remove_duplicates` that takes a list and returns a new list with only the unique elements from the original. Hint: they don't have to be in the same order.
  - ii). The wordlist I provided, `words.txt`, doesn't contain single letter words. So you might want to add "I", "a", and the empty string.
  - iii). Write a python code to read dictionary values from the user. Construct a function to invert its content. i.e., keys should be values and values should be keys.

**SET 13:**

- 1
  - i) Add a comma between the characters. If the given word is 'Apple', it should become 'A,p,p,l,e'
  - ii) Remove the given word in all the places in a string?
  - iii) Write a function that takes a sentence as an input parameter and replaces the first letter of every word with the corresponding upper case letter and the rest of the letters in the word by corresponding letters in lower case without using a built-in function?
2. Write a recursive function that generates all binary strings of n-bit length



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Website: <https://siiet.ac.in/>

## Examination Branch

A.Y. : 2022-23

SEM-II

| DATE       | Day       | Branch         | Session | HT.No                          | Total No of Students |
|------------|-----------|----------------|---------|--------------------------------|----------------------|
| 19-08-2023 | SATURDAY  | CSE-B          | FN      | 22X31A0566<br>TO<br>22X31A05D0 | 65                   |
| 21-08-2023 | MONDAY    | CYBER SECURITY | FN      | 22X31A6201<br>TO<br>22X31A6262 | 62                   |
| 21-08-2023 | MONDAY    | AI&ML-A        | AN      | 22X31A6601<br>TO<br>22X31A6650 | 50                   |
| 22-08-2023 | TUESDAY   | DS             | FN      | 22X31A6701<br>TO<br>22X31A6764 | 64                   |
| 22-08-2023 | TUESDAY   | AI&DS          | AN      | 22X31A7201<br>TO<br>22X31A7264 | 64                   |
| 23-08-2023 | WEDNESDAY | CSE-A          | FN      | 22X31A0501<br>TO<br>22X31A0565 | 65                   |
| 23-08-2023 | WEDNESDAY | CIVIL          | AN      | 22X31A0101<br>TO<br>22X31A0103 | 02                   |
| 24-08-2023 | THURSDAY  | CSE-C          | FN      | 22X31A05D1<br>TO<br>22X31A05J1 | 61                   |
| 24-08-2023 | THURSDAY  | AI&ML-B        | AN      | 22X31A6651<br>TO<br>22X31A6697 | 47                   |

  
Head of the Department  
Department of H&S  
SRI INDU INSTITUTE OF ENGG & TECH  
Sheriguda(V), Ibrahimpatnam (M), R.R. Dist-501 510

  
PRINCIPAL  
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Sheriguda(VIII), Ibrahimpatnam  
R.R. Dist. Telangana-501 510.



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<https://sifet.ac.in/>

**PYTHON Programming Lab External Time Table**  
**Examination Branch**

A.Y. : 2022-23

SEM-II

| DATE       | Day       | Branch         | Session | IIT.No                         | Total No of Students | Remarks           |                    |
|------------|-----------|----------------|---------|--------------------------------|----------------------|-------------------|--------------------|
|            |           |                |         |                                |                      | Internal Examiner | External Examiner  |
| 19-08-2023 | SATURDAY  | CSE-B          | FN      | 22X31A0566<br>TO<br>22X31A05D0 | 65                   | D Swapna          | Md. Sirajul Huq    |
| 21-08-2023 | MONDAY    | CYBER SECURITY | FN      | 22X31A6201<br>TO<br>22X31A6262 | 62                   | P.BALU            | Chandra Shekar     |
| 21-08-2023 | MONDAY    | AI&ML-A        | AN      | 22X31A6601<br>TO<br>22X31A6650 | 50                   | M.TEJASWI         | Chandra Shekar     |
| 22-08-2023 | TUESDAY   | DS             | FN      | 22X31A6701<br>TO<br>22X31A6764 | 64                   | P.BALU            | Swapna G           |
| 22-08-2023 | TUESDAY   | AI&DS          | AN      | 22X31A7201<br>TO<br>22X31A7264 | 64                   | M.TEJASWI         | Swapna G           |
| 23-08-2023 | WEDNESDAY | CIVIL          | AN      | 22X31A0101<br>TO<br>22X31A0103 | 02                   | B.RAJASHWARI      | A Sunitha          |
| 24-08-2023 | THURSDAY  | AI&ML-B        | AN      | TO<br>22X31A6697               | 47                   | M.TEJASWI         | Chaitanya Bharathi |
| 25-08-2023 | FRIDAY    | IOT            | FN      | 22X31A6901<br>TO<br>22X31A6963 | 63                   | P.BALU            | S.Shiva shankar    |

FN : 9.40 am to 12.25 pm  
 AN : 1.00 pm to 4.00 pm

HOD 

  
 EXAM BRANCH

PRINCIPAL   
 PRINCIPAL

Sri Indu Institute of Engineering & Tech  
 Main Road, Sheriguda(V),  
 Ibrahimpatnam(M), R.R. Dist.,  
 Telangana-501510

Sri Indu Institute of Engineering & Tech,  
 Sheriguda(V), Ibrahimpatnam(M),  
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## TIME TABLE FOR A.Y 2022-23 LAB OCCUPANCY CHART

### PYTHON PROGRAMMING LAB

Class: I-B.Tech CSE(CYBER SECURITY) Semester: II LH. NO: D-007 W.E.F:03-04-2023

| Period/<br>Day | 1                         | 2               | 3               | 12:<br>10-<br>12:<br>45 | 4                          | 5         | 6         | 7         |
|----------------|---------------------------|-----------------|-----------------|-------------------------|----------------------------|-----------|-----------|-----------|
|                | 9:40-<br>10:30            | 10:30-<br>11:20 | 11:20-<br>12:10 |                         | 12:45-<br>1:30             | 1:30-2:20 | 2:20-3:10 | 3:10-4:00 |
| Monday         | I-II DS –PYTHON LAB       |                 |                 | L<br>U<br>N<br>C<br>H   | I-II CSE-CYBER –PYTHON LAB |           |           |           |
| Tuesday        | I-II CSE-C –PYTHON LAB    |                 |                 |                         | I-II AI&ML -A–PYTHON LAB   |           |           |           |
| Wednesday      | I-II AI&ML -B –PYTHON LAB |                 |                 |                         | I-II CSE-A –PYTHON LAB     |           |           |           |
| Thursday       | I-II ECE –PYTHON LAB      |                 |                 |                         | LAB MAINTENANCE            |           |           |           |
| Friday         | I-II CSE-B –PYTHON LAB    |                 |                 |                         | I-II CSE-IOT –PYTHON LAB   |           |           |           |
| Saturday       | LAB MAINTENANCE           |                 |                 |                         | I-II AI&DS –PYTHON LAB     |           |           |           |

  
Head of the Department  
Department of H&S  
SRI INDU INSTITUTE OF ENGG & TECH  
Sheriguda(V), Ibrahimpatnam (M), R.R. Dist-501 510

  
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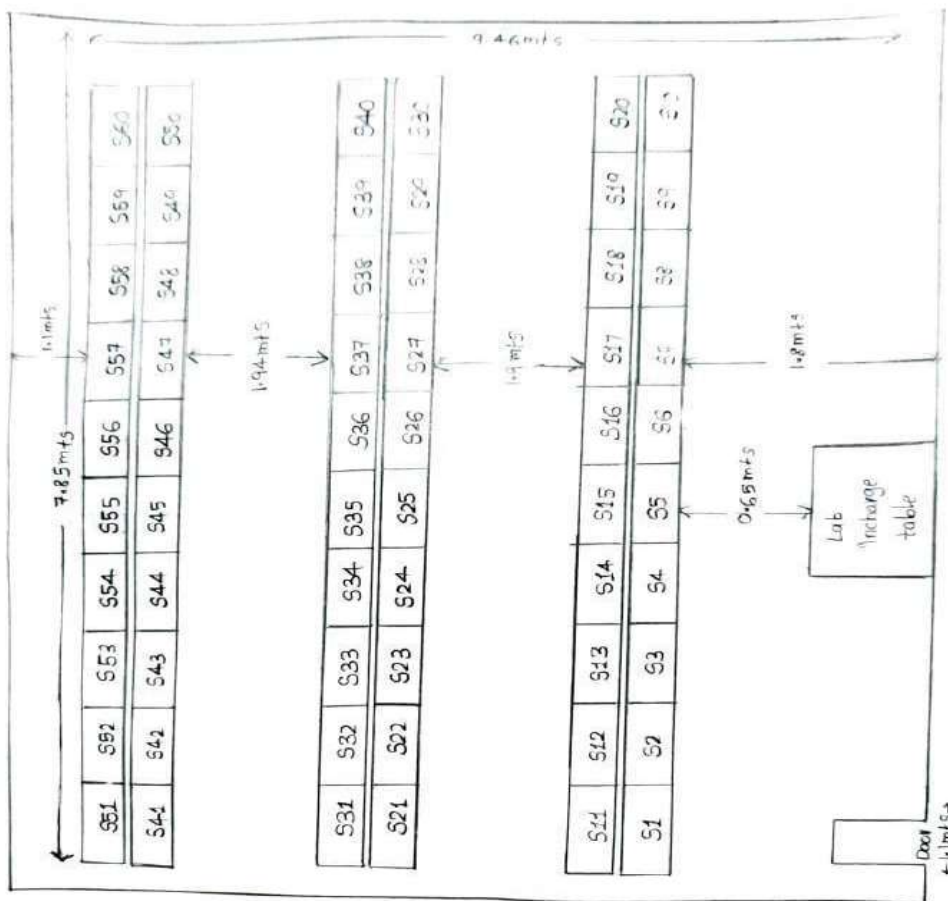
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Website: <http://siiet.ac.in/>

## PYTHON PROGRAMMING LAB

**ROOM NO: D-007**

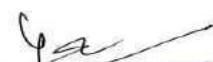
**BLOCK:D**

**FLOOR:GROUND FLOOR**



Lab Area 74.2615qm

  
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 Sri Indu Institute of Engineering & Tech  
 Sheriguda(V), Ibrahimpatnam  
 R. Dist. Telangana 501 510

  
 Sri Indu Institute of Engg. & Tech.  
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 Ibrahimpatnam(M), R. R. Dist.  
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## **Do's**

1. Come with completed observation and record.
2. Remove your shoes or wear foot socks before you enter the lab.
3. Always keep quiet. Be considerate to other lab users.
4. Report any problems with the computer to the person in charge.
5. Shut down the computer properly.
6. Wear ID card before entering into the lab.
7. Read and understand how to carry out an activity thoroughly before coming to the lab.
8. Write In time, Out time and system details in the login register

## **Don'ts**

1. Do not touch any part of the computer with wet hands.
2. Do not change system settings.
3. Do not hit the keys on the computer too hard.
4. Don't damage, remove, or disconnect any labels, parts, cables or equipment.
5. Do not install or download any software or modify or delete any system files on any lab computers
6. Do not disturb your neighbouring students. They may be busy in completing tasks.
7. Do not remove anything from the computer laboratory without permission.
8. Do not use pen drives.





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Website: <https://siiet.ac.in/>

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**Lab manual link:**

<https://drive.google.com/file/d/1ZAv1g7UzRzYoDoZrAqmvDoqRKzSnJvOr/view?usp=sharing>

# SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY



Department of Humanities and Sciences

## Course Outcome Attainment (Internal Examination-1)

|                       |                      |                |           |
|-----------------------|----------------------|----------------|-----------|
| Name of the faculty : | P.BALU               | Academic Year: | 2022-23   |
| Branch & Section:     | CSE (CYBER SECURITY) | Examination:   | INTERNAL  |
| Lab Course Name:      | PYTHON PROGRAMMING   | Year/semester  | I -II SEM |

| S.No                     | HT No.     | R+O+A     | V+V       | E+E+R     |
|--------------------------|------------|-----------|-----------|-----------|
| <b>Max. Marks ==&gt;</b> |            | <b>10</b> | <b>10</b> | <b>10</b> |
| 1                        | 22X31A6201 | 10        | 10        | 10        |
| 2                        | 22X31A6202 | 10        | 10        | 10        |
| 3                        | 22X31A6203 | 10        | 10        | 10        |
| 4                        | 22X31A6204 | 10        | 10        | 10        |
| 5                        | 22X31A6205 | 10        | 10        | 10        |
| 6                        | 22X31A6206 | 10        | 10        | 10        |
| 7                        | 22X31A6207 | 7         | 7         | 10        |
| 8                        | 22X31A6208 | 10        | 10        | 10        |
| 9                        | 22X31A6209 | 9         | 9         | 10        |
| 10                       | 22X31A6210 | 10        | 10        | 10        |
| 11                       | 22X31A6211 | 10        | 10        | 10        |
| 12                       | 22X31A6212 | 10        | 10        | 10        |
| 13                       | 22X31A6213 | 10        | 10        | 10        |
| 14                       | 22X31A6214 | 10        | 10        | 10        |
| 15                       | 22X31A6215 | 10        | 10        | 10        |
| 16                       | 22X31A6216 | 10        | 10        | 10        |
| 17                       | 22X31A6217 | 9         | 9         | 10        |
| 18                       | 22X31A6218 | 10        | 10        | 10        |
| 19                       | 22X31A6219 | 10        | 10        | 10        |
| 20                       | 22X31A6220 | 10        | 10        | 10        |
| 21                       | 22X31A6221 | 10        | 10        | 10        |
| 22                       | 22X31A6222 | 9         | 9         | 10        |
| 23                       | 22X31A6223 | 10        | 10        | 10        |
| 24                       | 22X31A6224 | AB        | AB        | AB        |
| 25                       | 22X31A6225 | 10        | 10        | 10        |
| 26                       | 22X31A6226 | AB        | AB        | AB        |
| 27                       | 22X31A6227 | 10        | 10        | 10        |
| 28                       | 22X31A6228 | 9         | 9         | 10        |
| 29                       | 22X31A6229 | 10        | 10        | 10        |
| 30                       | 22X31A6230 | 8         | 8         | 10        |
| 31                       | 22X31A6231 | 9         | 9         | 10        |
| 32                       | 22X31A6232 | 9         | 9         | 10        |
| 33                       | 22X31A6233 | 10        | 10        | 10        |
| 34                       | 22X31A6234 | AB        | AB        | AB        |



**CO Mapping with Exam Questions:**

|        |   |   |   |
|--------|---|---|---|
| CO - 1 | y | y | Y |
| CO - 2 | y | y | Y |
| CO - 3 | y | y | Y |
| CO - 4 |   |   |   |
| CO - 5 |   |   |   |
| CO - 6 |   |   |   |

**CO Attainment based on Exam Questions:**

|        |     |     |     |
|--------|-----|-----|-----|
| CO - 1 | 98% | 98% | 98% |
| CO - 2 | 98% | 98% | 98% |
| CO - 3 | 98% | 98% | 98% |
| CO - 4 |     |     |     |
| CO - 5 |     |     |     |
| CO - 6 |     |     |     |

| CO   | Intrnal practical | E+E+R | OverallI | Level |
|------|-------------------|-------|----------|-------|
| CO-1 | 98%               | 98%   | 98%      | 3     |
| CO-2 | 98%               | 98%   | 98%      | 3     |
| CO-3 | 98%               | 98%   | 98%      | 3     |
| CO-4 |                   |       |          |       |
| CO-5 |                   |       |          |       |
| CO-6 |                   |       |          |       |

| Attainment Level |      |
|------------------|------|
| 1                | 60%  |
| 2                | 70%  |
| 3                | >80% |

Attainment (Internal 1 Examination) = **3**

# SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY

Department of Humanities and Sciences



## Course Outcome Attainment (Internal Examination-2)

|                       |                     |                           |
|-----------------------|---------------------|---------------------------|
| Name of the faculty : | P.BALU              | Academic Year: 2022-23    |
| Branch & Section:     | CSE (CYBER SECURITY | Examination: LAB INTERNAL |
| Lab Course Name:      | PYTHON PROGRAMMING  | Year/semester I -II SEM   |

| S.No           | HT No.     | R+O+A | V+V | E+E+R | ppt |
|----------------|------------|-------|-----|-------|-----|
| Max. Marks ==> |            | 10    | 10  | 10    | 10  |
| 1              | 22X31A6201 | 9     | 8   | 8     | 10  |
| 2              | 22X31A6202 | 10    | 7   | 10    | 10  |
| 3              | 22X31A6203 | 9     | 8   | 9     | 10  |
| 4              | 22X31A6204 | 10    | 7   | 10    | 10  |
| 5              | 22X31A6205 | 10    | 8   | 10    | 10  |
| 6              | 22X31A6206 | 8     | 8   | 8     | 9   |
| 7              | 22X31A6207 | 10    | 7   | 10    | 10  |
| 8              | 22X31A6208 | 10    | 8   | 9     | 10  |
| 9              | 22X31A6209 | 8     | 6   | 8     | 10  |
| 10             | 22X31A6210 | 10    | 8   | 10    | 10  |
| 11             | 22X31A6211 | 8     | 8   | 8     | 10  |
| 12             | 22X31A6212 | 10    | 9   | 10    | 10  |
| 13             | 22X31A6213 | 8     | 8   | 10    | 10  |
| 14             | 22X31A6214 | 6     | 6   | 10    | 10  |
| 15             | 22X31A6215 | 8     | 8   | 10    | 10  |
| 16             | 22X31A6216 | 10    | 8   | 7     | 10  |
| 17             | 22X31A6217 | 10    | 9   | 10    | 10  |
| 18             | 22X31A6218 | 7     | 8   | 9     | 10  |
| 19             | 22X31A6219 | 10    | 7   | 8     | 10  |
| 20             | 22X31A6220 | 7     | 9   | 10    | 10  |
| 21             | 22X31A6221 | 9     | 9   | 8     | 10  |
| 22             | 22X31A6222 | 9     | 8   | 10    | 10  |
| 23             | 22X31A6223 | 8     | 8   | 8     | 10  |
| 24             | 22X31A6224 | 8     | 8   | 8     | 10  |
| 25             | 22X31A6225 | 6     | 6   | 9     | 10  |
| 26             | 22X31A6226 | 10    | 8   | 10    | 10  |
| 27             | 22X31A6227 | 10    | 8   | 10    | 10  |
| 28             | 22X31A6228 | 7     | 8   | 8     | 10  |
| 29             | 22X31A6229 | 9     | 7   | 9     | 10  |
| 30             | 22X31A6230 | 7     | 7   | 9     | 10  |
| 31             | 22X31A6231 | 7     | 6   | 8     | 10  |
| 32             | 22X31A6232 | 10    | 8   | 10    | 10  |
| 33             | 22X31A6233 | 10    | 8   | 7     | 10  |
| 34             | 22X31A6234 | 9     | 8   | 10    | 10  |
| 35             | 22X31A6235 | 8     | 6   | 9     | 10  |
| 36             | 22X31A6236 | 8     | 10  | 10    | 10  |
| 37             | 22X31A6237 | 8     | 8   | 7     | 10  |





|        |   |   |   |   |
|--------|---|---|---|---|
| CO - 1 |   |   |   |   |
| CO - 2 |   |   |   |   |
| CO - 3 |   |   |   |   |
| CO - 4 | y | y | Y | y |
| CO - 5 | y | y | Y | y |
| CO - 6 | y | y | Y | y |

**CO Attainment based on Exam Questions:**

|        |      |     |     |     |
|--------|------|-----|-----|-----|
| CO - 1 |      |     |     |     |
| CO - 2 |      |     |     |     |
| CO - 3 |      |     |     |     |
| CO - 4 | 100% | 98% | 91% | 91% |
| CO - 5 | 100% | 98% | 91% | 91% |
| CO - 6 | 100% | 98% | 91% | 91% |

| CO   | Intrnal practical | E+E+R | ppt | OverallI | Level |
|------|-------------------|-------|-----|----------|-------|
| CO-1 |                   |       |     |          |       |
| CO-2 |                   |       |     |          |       |
| CO-3 |                   |       |     |          |       |
| CO-4 | 99%               | 91%   | 91% | 94%      | 3     |
| CO-5 | 99%               | 91%   | 91% | 94%      | 3     |
| CO-6 | 99%               | 91%   | 91% | 94%      | 3     |

Attainment (Internal 2 Examination) = 3



|  |  |          |
|--|--|----------|
|  |  |          |
|  |  |          |
|  |  |          |
| Class Average mark                             |  | 47       |
| Number of students performed above the target  |  | 25       |
| Number of successful students                  |  | 58       |
| Percentage of students scored more than target |  | 43%      |
| <b>Attainment level</b>                        |  | <b>1</b> |

| <b>Attainment Level</b> | <b>% students</b> |
|-------------------------|-------------------|
| 1                       | 60%               |
| 2                       | 70%               |
| 3                       | >80%              |

# SRI INDU INSTITUTE OF ENGINEERING AND TECHNOLOGY



Department of Humanities and Sciences

## Course Outcome Attainment

Name of the faculty : P.BALU  
Branch & Section: CSE (CYBER SECURITY)  
Lab Course Name: PYTHON PROGRAMMING

Academic Year: 2022-23  
Year / Semester: I -II SEM

| Course Outcomes  | 1st Internal Exam | 2nd Internal Exam | Internal Exam | University Exam | Attainment Level |
|--|-------------------|-------------------|---------------|-----------------|------------------|
| CO1  | 3.00              |                   | 3.00          | 1.00            | 2.40             |
| CO2  | 3.00              |                   | 3.00          | 1.00            | 2.40             |
| CO3  | 3.00              |                   | 3.00          | 1.00            | 2.40             |
| CO4  |                   | 3.00              | 3.00          | 1.00            | 2.40             |
| CO5  |                   | 3.00              | 3.00          | 1.00            | 2.40             |
| CO6  |                   | 3.00              | 3.00          | 1.00            | 2.40             |
| <b>Internal &amp; University Attainment:</b>               |                   |                   | 3.00          | 1.00            |                  |
| <b>Weightage</b>   |                   |                   | 70%           | 30%             |                  |
| <b>CO Attainment for the course (Internal, University)</b> |                   |                   | 2.10          | 0.30            |                  |
| <b>CO Attainment for the course (Direct Method)</b>        |                   |                   | 2.40          |                 |                  |

Overall course attainment level

**2.40**



**PO-ATTAINMENT**

|                      | PO<br>1     | PO<br>2     | PO<br>3     | PO<br>4     | PO<br>5     | PO<br>6 | PO<br>7 | PO<br>8 | PO<br>9 | PO1<br>0 | PO1<br>1 | PO1<br>2    |
|----------------------|-------------|-------------|-------------|-------------|-------------|---------|---------|---------|---------|----------|----------|-------------|
| <b>CO Attainment</b> | <b>2.40</b> | <b>2.00</b> | <b>2.40</b> | <b>0.80</b> | <b>1.60</b> |         |         |         |         |          |          | <b>0.80</b> |

**CO contribution to PO - 33%, 67%, 100% (Level 1/2/3)**