



SRI RAMAKRISHNA ENGINEERING COLLEGE

[Educational Service: SNR Sons Charitable Trust]

[Autonomous Institution, Reaccredited by NAAC with 'A+' Grade]

[Approved by AICTE and Permanently Affiliated to Anna University, Chennai]

[ISO 9001:2015 Certified and all eligible programmes Accredited by NBA]

Vattamalaipalayam, N.G.G.O. Colony Post, Coimbatore – 641 022



EXPERIMENTAL LEARNING

LABORATORY CLASSES



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Department of Computer Science and Engineering

COURSE CODE & TITLE: 20CS274 & ALGORITHMS AND COMPLEXITY - I LABORATORY

CLASS: II B. E. - CSE

SEMESTER: 03

COURSE OUTCOMES

On successful completion of the course, students will be able to

- CO1: Analyze the time complexity of an algorithm using empirical analysis
- CO2: Build various data structures such as List, stack, queue, hash table to solve real world problems
- CO3: Apply various searching and sorting techniques

Course Coordinators

Dr. R.Kingsy Grace, ASP / CSE
 Mrs. S. Prince Sahaya Brightly, AP/CSE
 Mrs. S. Birundha, AP/CSE

LABORATORY PLAN

Laboratory Session	Exercises	Course Outcome Addressed
1.	Perform Empirical analysis on algorithm.	CO1
2.	Static implementation of List ADT.	CO2
3.	Dynamic implementation of List ADT.	CO2
4.	Implementation of Doubly Linked List and Circular Linked List.	CO2
5.	Implementation of Stack ADT.	CO2
6.	Implementation of Queue ADT.	CO2
7.	Implementation of Linear and Binary Search using Array ADT.	CO3
8.	Implementation of Hashing.	CO2

9.	Implementation of Insertion Sort using Array ADT.	CO3
10.	Implementation of Bubble sort using Array ADT.	CO3
11.	Implementation of Quick Sort using Array ADT.	CO3
12.	Implementation of Merge Sort using Array ADT.	CO3

TEXT BOOKS

1. Mark Allen Weiss, "Data Structures and Algorithm Analysis in C", Pearson Education, 2nd Edition, 2007
2. Anany Levitin, "Introduction to the Design and Analysis of Algorithm", 3rd Edition, Pearson Education Asia, 2012.
3. Thomas H Cormen, Charles E Leiserson, Ronald L Rivest and Clifford Stein, "Introduction to Algorithms", 3rd Edition, Prentice Hall of India, 2009

REFERENCES

1. Horowitz, Sahni and Anderson- Freed, "Fundamentals of Data Structures in C", Silicon Press, 2007
2. Sara Baase and Allen Van Gelder, "Computer Algorithms - Introduction to Design and Analysis", 3rd Edition, Pearson Education Asia, 2008.
3. A.V.Aho, J.E. Hopcroft and J.D.Ullman, "The Design and Analysis of Computer Algorithms", Pearson Education Asia, 2003.

WEB REFERENCES

1. <https://nptel.ac.in/courses/106/102/106102064/>
2. <https://nptel.ac.in/courses/106/106/106106131/>


Course Coordinators -

Dr. R.Kingsy Grace, Associate Professor / CSE

Mrs. S. Prince Sahaya Brighty, AP/CSE

Mrs.S. Birundha, AP (OG) / CSE


HOD-CSE

Dr. A. GRACE SELVARANI,
Professor & Head,
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Coimbatore - 641 022.



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

LESSON PLAN	
Course Instructor/s	1. Mr. R. S. Vishnu Durai 2. Mrs. S. Birundha 3. Ms. K. R. Sarumathi
Designation	1. Assistant Professor 2. Assistant Professor 3. Assistant Professor
Course Code & Title	20CS278 & Programming Paradigms III Laboratory
Year/Sem/Batch	II CSE/IV Sem /2020-2024
Regulation	2020
Academic Year	2021-2022

COURSE OUTCOMES

On successful completion of the course, students will be able to

CO1	Relate the fundamental notions and techniques used in Python programming.	-
CO2	Interpret problem solving through python programming.	PO1, PO4, PO5
CO3	Build simple models using open-source Python Web Framework.	PO1, PO3, PO5
CO4	Examine the python programming constructs and features to solve problems in diversified domains.	PO1, PO2, PO4, PO5

Lecture Hours	Portions to be Covered	Text Book/ Reference Book	Teaching Methodology planned	Activity Planned for Learners
LIST OF EXPERIMENTS				
1.	CO1 and CO2 Discussion Control statements, Loops and Functions	T1, R1	Lecture along with demonstration	Cycle Test 1
2.	Classes and Objects, Inheritance and Polymorphism	T1, R1		
3.	Regular Expression	T2, R1		
4.	File Transfer using TCP/IP	T2, R1		
5.	Chat Application using UDP	T2, R1		
6.	GUI using Tkinter	T2, R1		
7.	Course Registration form using various GUI	T2, R1	Lecture along with demonstration	Cycle Test 2
8.	Implementation of Producer/Consumer Problem	T2, R1		
9.	Python Program using CGI	T2, R1		
10.	Blog Creation using Django	T2, R2		

11.	Data Extraction from Facebook	T2, R1		
12.	Data Extraction from Twitter	T2, R1		

Total No. of hours required to complete the syllabus: 15 Hours
Content Beyond the syllabus

Lecture Hours	Portions to be Covered	Text Book/ Reference Book	Teaching Methodology planned	Activity Planned for Learners
1	Implementation of Single threading Vs Multithreading	T2	Lecture along with demonstration	-

Total No. of hours required to complete the content beyond the syllabus: 1 Hour

TEXT BOOKS

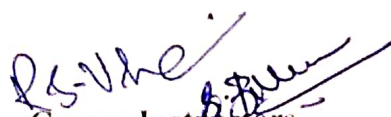
1. Dr. Charles R. Severance, "Python for Everybody", 2nd edition, Severance Publications, 2016.
2. Wesley J. Chun, "Core Python Application Programming", 3rd edition, Prentice Hall, 2012.


REFERENCES

1. Michel Anders, "Python 3 Web Development Beginner's Guide", Packt Publishing Limited, 2011.
2. Sanjeev Jaiswal, Ratan Kumar, "Learning Django Web Development", Packt Publishing Limited, 2015.

WEB REFERENCES

1. <https://infytq.onwingspan.com/en/infytq-login>
2. <https://www.coursera.org/specializations/python>
3. <https://nptel.ac.in/courses/106/106/106106182/>


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