# 20CS12P2 - PYTHON PROGRAMMING LABORATORY

(Common to ECE & EEE Branches)

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| **Course Category:** | Professional Core | **Credits:** | 1.5 |
| **Course Type:** | Practical | **Lecture - Tutorial - Practical:** | 0-0-3 |
| **Prerequisite:** | Fundamentals of Computers and basic Mathematics. | **Sessional Evaluation:**  **Univ. Exam Evaluation:**  **Total Marks:** | 40  60  100 |
| **Objectives** | * To learn and practice the fundamental blocks of Python Programming. | | |

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| **Course Outcomes** | Upon completion of the course, students will be able to gain knowledge on Python programming. |
| **Course Content** | 1. Check whether the given year is leap year or not. 2. Compute GCD of two numbers using python. 3. Check whether the given number is palindrome. 4. Find all prime numbers within a given range. 5. Print ‘n’ terms of Fibonacci series using recursion. 6. Implement matrix multiplication. 7. Demonstrate use of slicing in string. 8. Build an application using lists & list methods. 9. Demonstrate use Dictionary& related functions. 10. Implement a program to show usage of tuples, sets & their methods. 11. Demonstrate read and write from a file. 12. Write a program to copy a file. 13. Demonstrate working of classes and objects. 14. Write a program to demonstrate constructors. 15. Write a program to demonstrate inheritance. |
| **Text Books and References** | Text Books:   1. Gowrishankar. S, Veena.A, “Introduction to Python Programming”, CRC Press, Taylor and Francis group, 2019. 2. Kenneth A. Lambert, The Fundamentals of Python: First Programs, 2011, Cengage Learning, ISBN: 978-1111822705. |
| Reference Books:   1. Martin C. Brown, “The Complete Reference: Python”, McGraw-Hill, 2018. 2. Kenneth A. Lambert, B.L. Juneja, “Fundamentals of Python”, CENGAGE, 2015. 2. R. Nageswara Rao, “Core Python Programming”, 2/e, Dreamtech Press, 2019. |
| **E-Resources** | 1. <https://Wiki.python.org/moin/WebProgrammingBooks> 2. <https://realpython.com/tutorials/web-dev/> 3. <https://nptel.ac.in/courses> |