

**PYTHON APPLICATION PROGRAMMING
(OPEN ELECTIVE)**

(Effective from the academic year 2018 -2019)

SEMESTER – VI

Course Code	18CS752	IA Marks	40
Number of Lecture Hours/Week	3:0:0	Exam Marks	60
Total Number of Lecture Hours	40	Exam Hours	03

CREDITS – 03

Course Learning Objectives: This course (18CS752) will enable students to

- Learn Syntax and Semantics and create Functions in Python.
- Handle Strings and Files in Python.
- Understand Lists, Dictionaries and Regular expressions in Python.
- Implement Object Oriented Programming concepts in Python
- Build Web Services and introduction to Network and Database Programming in Python.

Module – 1

Why should you learn to write programs, Variables, expressions and statements, Conditional execution, Functions Textbook 1: Chapters 1 – 4 RBT: L1, L2, L3	Teaching Hours 08
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Module – 2

Iteration, Strings, Files Textbook 1: Chapters 5– 7 RBT: L1, L2, L3	08
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Module – 3

Lists, Dictionaries, Tuples, Regular Expressions Textbook 1: Chapters 8 - 11 RBT: L1, L2, L3	08
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Module – 4

Classes and objects, Classes and functions, Classes and methods Textbook 2: Chapters 15 – 17 RBT: L1, L2, L3	08
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Module – 5

Networked programs, Using Web Services, Using databases and SQL Textbook 1: Chapters 12– 13, 15 RBT: L1, L2, L3	08
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Course Outcomes: After studying this course, students will be able to

- Examine Python syntax and semantics and be fluent in the use of Python flow control and functions.
- Demonstrate proficiency in handling Strings and File Systems.
- Create, run and manipulate Python Programs using core data structures like Lists, Dictionaries and use Regular Expressions.
- Interpret the concepts of Object-Oriented Programming as used in Python.
- Implement exemplary applications related to Network Programming, Web Services and Databases in Python.

Question paper pattern:

- The question paper will have ten questions.
- Each full Question consisting of 20 marks

- There will be 2 full questions (with a maximum of four sub questions) from each module.
- Each full question will have sub questions covering all the topics under a module.
- The students will have to answer 5 full questions, selecting one full question from each module.

Text Books:

1. Charles R. Severance, "Python for Everybody: Exploring Data Using Python 3", 1st Edition, CreateSpace Independent Publishing Platform, 2016. (http://do1.dr-chuck.com/pythonlearn/EN_us/pythonlearn.pdf)
2. Allen B. Downey, "Think Python: How to Think Like a Computer Scientist", 2nd Edition, Green Tea Press, 2015. (<http://greenteapress.com/thinkpython2/thinkpython2.pdf>) (Download pdf files from the above links)

Reference Books:

1. Charles Dierbach, "Introduction to Computer Science Using Python", 1st Edition, Wiley India Pvt Ltd, 2015. ISBN-13: 978-8126556014
2. Gowrishankar S, Veena A, "Introduction to Python Programming", 1st Edition, CRC Press/Taylor & Francis, 2018. ISBN-13: 978-0815394372
3. Mark Lutz, "Programming Python", 4th Edition, O'Reilly Media, 2011. ISBN-13: 978-9350232873
4. Roberto Tamassia, Michael H Goldwasser, Michael T Goodrich, "Data Structures and Algorithms in Python", 1st Edition, Wiley India Pvt Ltd, 2016. ISBN-13: 978-8126562176
5. Reema Thareja, "Python Programming Using Problem Solving Approach", Oxford university press, 2017. ISBN-13: 978-0199480173


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