B.Sc. Part – III Computer Science (Optional) (Semester – VI)
Course Code: DSE-F24 Computer Science Paper –XVI
Course Title: Advanced Python
Total Contact Hours: 36 Hrs (45 Lectures of 48 Min.)
Teaching Scheme: Theory – 03 Lect. / Week

Credits: 02 **Total Marks: 50**

Course Outcomes:

After successful completion of this course, students will able to:

1) learn how to use exception handling in Python applications for error handling.
2) makes code more reusable and easier to work with larger programs using oops.
3) understand Python programming using Django framework.
4) develop web pages or web applications using Django.

Unit – 1: Exception Handling and Object Oriented Programming Concepts (18 Hrs.)

Exception Handling: Exception, Exception Handling, Except clause, Try, finally clause, User Defined Exceptions.

Object Oriented Programming Concepts: Class and object, Attributes, Inheritance, Overloading, Overriding, and Data hiding.

Unit – 2: Introduction to Django (18 Hrs.)

Introduction to Django: Concepts of Web Page**,** Django Project & server configuration**,** MVT Design Pattern**,** View**,** Template**,** URL Mapping**,** Django Forms**,** Form Validation**,** Database connectivity**,** Django Middleware**,** Session & cookies.

Reference Books –

1. Practical Programming: An introduction to Computer Science Using Python, second edition, Paul Gries, Jennifer Campbell, Jason Montojo, The Pragmatic Bookshelf.
2. Python for Informatics: Exploring Information, Charles Severance
3. Learning Python, Fourth Edition, Mark Lutz, O'Reilly publication
4. Introduction to Python for Computational Science and Engineering (A beginner's guide), Hans Fangohr
5. John V Guttag. "Introduction to Computation and Programming Using Python", Prentice Hall of India
6. R. Nageswara Rao, "Core Python Programming", Dreamtech
7. "Glimpses of Python Programming Development" by Budake R. D.