20MSM511T					Object Oriented And Python Programming					
Teaching Scheme					Examination Scheme					
L	T	P	C	Hrs. / Week	Theory			Practical		Total Marks
					MS	ES	IA	LW	LE/Viva	
3	0	0	3	3	25	50	25	--	--	100

COURSE OBJECTIVE

- Understanding about object oriented programming.
- To make aware the concept of classes and objects.
- Understanding the process of exposing essential data and hiding the low level data.
- Implementation of object oriented programming concepts in PYTHON.
- Understand the basics of constructors, destructors, inheritance and polymorphism.

UNIT 1 CONSTRUCTORS, DESTRUCTORS, INHERITANCE AND POLYMORPHISM **10 Hrs.**

Whatis object oriented programming. Programming characteristics of object oriented languages, constructors and destructors, types of constructors, destructors, declaration and application of constructors, Private constructor and destructors, program on constructors and destructors, Inheritance, Virtual functions and Function overriding, Polymorphism

UNIT 2 INTRODUCTION TO PYTHON **10 Hrs.**

The basic elements of Python, Branching programs, Strings and Input, Iteration Functions and Scoping, Specifications, Recursion, Global variables, Modules,Testing, Debugging, Numpy, Spicy modules.

UNIT 3 CLASSES AND OBJECTS **10 Hrs.**

Introduction to classes and objects, class, encapsulation, objects, member function, static member.

UNIT 4 STRUCTURED TYPES, MUTABILITY **10 Hrs.**

Tuples, Lists and Mutability, Functions as Objects, Strings, Tuples and Lists, Dictionaries
Handling exceptions, Exceptions as a control flow mechanism, Assertions, Abstract Data Types and Classes, Inheritance, encapsulation.

40 Hrs.

COURSE OUTCOMES

On completion of the course, student will be able to

CO1 – Apply the object oriented programming paradigm to write computer program.
CO2 – Demonstrate the ability to apply concepts of OOP.
CO3 – Apply data structures available in Python library.
CO4 – Analyze mathematical problems by writing simple program in OOP approach.
CO5 – Evaluate scientific/ mathematical problem by writing simple program in PYTHON.
CO6 – Create/manipulate object belonging to the class.

TEXT/REFERENCE BOOKS

1. Object-Oriented Programming with C++, E. Balagurusamy, Tata McGraw Hill.
2. Object Oriented Programming & C++, R. Rajaram, New Age International.
3. C++ The complete Reference, H. Schildt, 4th Ed, Tata McGraw Hill.
4. Object-Oriented Programming with C++ and JAVA, D. Samanta, PHI.
5. John V Guttag. “Introduction to Computation and Programming Using Python”, Prentice Hall of India.
6. Allen Downey, Jeffrey Elkner and Chris Meyers "How to think like a Computer Scientist, Learning with Python", Green Tea Press.