

PYTHON SYLLABUS - B.C.A. / BSCIT (Semester - 5)

CS-30:Programming in Python		
Unit No.	Topic	Detail
1	Introduction to Python	<ul style="list-style-type: none"> ● The basic elements of Python ● Branching programs ● Strings and Input ● Iteration ● Functions and Scoping, Specifications, Recursion ● Global variables, Modules, Files ● Tuples, Lists and Mutability ● Functions as Objects, Strings ● Tuples and Lists, Dictionaries
2	OOP using Python	<ul style="list-style-type: none"> ● Handling exceptions, Exceptions as a control flow mechanism, ● Assertions, Abstract Data Types and Classes, ● Inheritance, ● Encapsulation and information hiding, ● Search Algorithms, Sorting Algorithms, ● Hashtables
3	Plotting using PyLab	<ul style="list-style-type: none"> ● Plotting using PyLab, ● Plotting mortgages and extended examples, ● Fibonacci sequence revisited, Dynamic ● Programming and the 0/1 Knapsack algorithm, ● Dynamic programming and divide and conquer
4	Network Programming and GUI using Python	<ul style="list-style-type: none"> ● Network Programming: <ul style="list-style-type: none"> ▪ Protocol, Sockets, ▪ Knowing IP Address, ▪ URL, Reading the Source Code of a Web Page, ▪ Downloading a Web Page from Internet, ▪ Downloading an Image from Internet, ▪ A TCP/IP Server, A TCP/IP Client, ▪ A UDP Server, A UDP Client, ▪ File Server, File Client, ▪ Two-Way Communication between Server and Client, ▪ Sending a Simple Mail. ● GUI Programming: <ul style="list-style-type: none"> ▪ Event-driven programming paradigm; ▪ Creating simple GUI; ▪ buttons, labels, entry fields, dialogs; ▪ widget attributes-sizes, fonts, colors, treeview, layouts, nested frames
5	Connecting with Database	<ul style="list-style-type: none"> ● Verifying the MySQL dB Interface Installation, ● Working with MySQL Database, ● Using MySQL from Python, ● Retrieving All Rows from a Table, ● Inserting Rows into a Table, ● Deleting Rows from a Table, ● Updating Rows in a Table, ● Creating Database Tables through Python