



B.C.A. (Honours) & B.C.A. (Honours with Research)
(Semester - 5 and Semester - 6)
To be effective from June – 2025
Saurashtra University

BCA-5	
CS –30: Programming in Python	
Minimum following exercise should be performed by the students during the semester	
(1)	Write a Python program to display as following: Hello World. This is Python.
(2)	Write a Python program to work with data types (i.e., int, float, complex, boolean string types)
(3)	Write a Python program to work with following functions: id(), type(),range()
(4)	Write a Python program to work with type conversion functions.
(5)	Write a Python program to work with the following Operators in Python with suitable examples. i) Arithmetic Operators ii) Relational Operators iii) Assignment Operator iv) Logical Operators v) Bit wise Operators vi) Ternary Operator
(6)	Write Python programs to work with the following: i) input() ii) print() iii) 'sep' attribute iv) 'end' attribute v) replacement Operator ({ })
(7)	Write a Python program to work with the Conditional statements in Python with suitable examples. i) if statement ii) if else statement iii) if – elif – else statement
(8)	Write a Python program to work with the Iterative statements in Python with suitable examples. i) while loop ii) for loop
(9)	Write a Python program to work with the control transfer statements in Python with suitable examples. i) break ii) continue iii) pass
(10)	Write a Python program to work with the various ways of accessing the string. i) By using Indexing (Both Positive and Negative) ii) By using Slice Operator
(11)	Write a Python program to work with the read and write operations on a file.
(12)	Write a Python program to copy the contents of a file to another file.
(13)	Write a Python program to work with the count frequency of characters in a given file.
(14)	Write a Python program to print each line of a file in reverse order.
(15)	Write a Python program to compute the number of characters, words and lines in a file.



B.C.A. (Honours) & B.C.A. (Honours with Research)
(Semester - 5 and Semester - 6)
To be effective from June – 2025
Saurashtra University

(16)	Write a Python program to work with the different ways of creating list objects with suitable example programs.
(17)	Write a Python program to work with the following functions/methods which operates on lists in Python with suitable examples: i) list() ii) len() iii) count() iv) index() v) append() vi) insert() vii) extend() viii) remove() ix) pop() x) reverse() xi) sort() xii) copy() xiii) clear()
(18)	Write a Python program to work with the different ways of creating tuple objects with suitable example programs.
(19)	Write Python programs to print the following Patterns: 1 22 333 4444 55555 A A B A B C A B C D A B C D E ***** **** *** ** *
(20)	Write a Python program to work with the the following functions/methods which operates on tuples in Python with suitable examples: i) len() ii) count() iii) index() iv) sorted() v) min()vi)max() vii) cmp() viii) reversed()
(21)	Write a Python program to work with the different ways of creating set objects with suitable example programs.
(22)	Write a Python program to work with the following functions/methods which operates on sets in Python with suitable examples: i) add() ii) update() iii) copy() iv) pop() v) remove()vi)discard() vii) clear() viii) union() ix) intersection() x) difference()
(23)	Write a Python program to work with the different ways of creating dictionary objects with suitable example programs.
(24)	Write a Python program to work with the following functions/methods which operates on dictionary in Python with suitable examples: i) dict() ii) len() iii) clear() iv) get() v) pop()vi)popitem() vii) keys() viii) values() ix) items() x) copy() xi) update()
(25)	Write a Python program to return multiple values at a time using a return statement.
(26)	Write a Python program to demonstrate Local and Global variables.



B.C.A. (Honours) & B.C.A. (Honours with Research)
(Semester - 5 and Semester - 6)
To be effective from June – 2025
Saurashtra University

(27)	Write a Python program to work with the lambda functions in Python with suitable examples.
(28)	Write a program that asks the user to enter their name and their age. Print out a message addressed to them that tells them the year that they will turn 60 years old.
(29)	Enter the number from the user and depending on whether the number is even or odd, print out an appropriate message to the user.
(30)	Write a python program to generate the Fibonacci series.
(31)	Write a function that reverses the user defined value using python.
(32)	Write a function to check if the input value is Armstrong or not.
(33)	Write the function for the Input number is Palindrome or not.
(33)	Write a recursive function to print the factorial for a given number
(34)	Write a function that takes a character (i.e. a string of length 1) and returns True if it is a vowel, False otherwise.
(35)	Define a function that computes the length of a given list or string.
(36)	Write a Python program to print a specified list after removing the 0th, 2nd, 3rd and 5th elements.
(37)	Write a Python script to sort (ascending and descending) a dictionary by value
(38)	Write a Python program to sum all the items in a dictionary
(39)	Implement the following Searching and Sorting techniques in Python by using functions. i) Linear Search ii) Binary Search iii) Selection Sort iv) Bubble Sort v) Insertion vi) Merge Sort viii) Quick Sort
(40)	Write a Python program to implement encapsulation concept
(41)	Generate different plotting using PyLab. Such as Line plot, Bar chart, Pie chart, Histogram, Scatter plot.
(42)	Write a Python script to plotting a curve
(43)	Write a Python program to implement 0/1 knapsack algorithm
(44)	Write a Python program to use divide and conquer algorithm
(45)	Write a Python program to create a socket
(46)	Write a Python program to identify IP address
(47)	Write a Python program to download source code of a web page
(48)	Write a Python program to download a web page from internet
(49)	Write a Python program to download an image from internet
(50)	Create a TCP/IP Server and client



B.C.A. (Honours) & B.C.A. (Honours with Research)
(Semester - 5 and Semester - 6)
To be effective from June – 2025
Saurashtra University

(51)	Create two-way communication such as server to client and client to server
(52)	Create a UDP server and client
(53)	Create a file server and client
(54)	Write a Python program to sending an email
(55)	Write a Python program to create GUI with use of buttons, labels, entry fields.
(56)	Write a Python program to ask confirmation or give alerts using dialogs.
(57)	Write a Python program to create a simple calculator
(58)	Write a Python program to get a list of existing databases.
(58)	Write a Python program to insert a row into a table.
(59)	Write a Python program to update a row into a table.
(60)	Write a Python program to delete a row from a table.
(61)	Create a database named dbStudent and a table named tblStudInfo: Table structure: student_id, student_name, stream, college_name, contact_number, remarks Write a Python program to insert student information.
(62)	Write a Python program to update student information.
(63)	Write a Python program to delete student information.