JHARKHAND Rai University
RANCHI

PRACTICE SET

End Semester Examination December 2025

Program: BCA **Semester : III**
Subject: Python Programming **Subject Code: 3CCC201**

Course Outcome:
After the successful completion of the course, the students will be able to:
• Set up the python environment and apply basic programming construct using variables, data types and operators.
• Implement conditional and loop structures and work with strings and built-in data structures like list, tuples, set and dictionary.
• Develop a reusable code using functions and modules, apply object –oriented programming concepts handle files and exceptions.
• Build simple GUI application, perform database operation with MySQL and analyze data using Numpy, Pandas and visualization tools.

Section A **(19x 5= 95)**

1) Explain Python variables with appropriate examples. [CO1, Unit-1, Understand, LOT]
2) What are keywords in Python? Define the term and list at least 10 keywords supported by Python. [CO1, Unit-1, Understand, LOT]
3) What is Python? List the libraries available for Desktop Applications, Web Development, Machine Learning, Data Science, and Data Visualization. [CO1,Unit-1,Remember, LOT]
4) Describe the types of comment supported by python? [CO1,Unit-1.Understand, LOT]
5) Indention is important in writing code in Python. Justify you answer with suitable example. [CO1, Unit-1, Understand, LOT]
6) What is the use of input () and print () method? Explain with a Python code snippet. [CO1, Unit-1, Understand, LOT]
7) How module can be described? What is the way of including module in the program? [COI, Unit-I, Understand, LOT]

8) Write a Python program using a while loop that repeatedly asks the user to enter a number and display it. If the user enters a negative number, the program should stop asking and print "Loop ended". Use a break statement in your program. [CO2, Unit-II, Apply, LOT]
9) Write a Python program that displays the greatest among three numbers entered by the user. Use an if-elif-else block to display the appropriate message. [CO2, Unit-II, Apply, LOT]
10) Define loop with its syntax. Write a Python program to print all the two digit numbers that are divisible by either 3 or 7. Use a for loop and the range() function .[CO2, Unit-II, Apply, LOT]
11) How String can be defined? Briefly explain its three functions. [CO2, Unit-III, Understand, LOT]
12) Explain List sequence along with its important functions. [CO2, Unit-III, Understand, LOT]
13) Write a Python function to implement pow (x, n). [CO2, Unit-III, Understand, LOT]
14) Explain the sort () and range () function in Python. [COI, Unit-III, Understand, LOT]
15) Differentiate between append () and insert () method of list. [COI, Unit-III, Analyze, LOT]
16) What is an exception? Name some built-in exception, [CO3, Unit-IV, Understand, LOT]
17) What does error mean in Python? Explain the concept of errors in programming. [CO3, Unit-IV, Understand, LOT]
18) Explain the Tkinter package in Python and mention some of its important widgets [CO3, Unit-IV, Understand, LOT]
19) What are the different file access modes available in Python for opening a file? [CO3, Unit-IV, Understand, LOT]

Section B **(13X10=130)**

20) Describe the different data types supported by Python? [CO1,Unit-1,Understand, LOT]
21) Design a Python program using a for loop and the range () function to calculate and print the sum of all even numbers between 1 and 50. Include comments in your program explaining the role of the "for" loop and range () function. [COII, Unit-II, Apply, LOT]
22) Discuss the differences and use cases of the following loop control statements in Python:
(i) break (ii) continue (iii) pass (iv) else clause in loops
[COII, Unit-II, Understand, LOT]
23) Write a Python program to take a string input from the user and perform the following:
(i)Convert the string to uppercase. (ii)Count the number of vowels in the string. Use appropriate string methods to achieve this. [COII, Unit-III, Apply, LOT]
24) Define a list of integers from 1 to 10. Write a Python program to extract the first five elements using list slicing and reverse the list using slicing. [COII, Unit-III, Apply, LOT]
25) Explain the similarities and differences between lists and tuples in Python.
[COI, Unit-III, Analysis, LOT]
26) Describe lambda function. How does it is different from regular function? Explain with a proper example. [COI, Unit-III, Understand, LOT]
27) Create a dictionary with the names of three Employees as keys and their salary as values. Perform the following operations:

(a)Add a new employee and their salary to the dictionary.

(b)Update the salary of an existing employee.

(c)Display the dictionary after the updates [COII, Unit-III, Understand, LOT]

28) How can you create your own exception in Python? [COIII, Unit-IV, Apply, LOT]
29) Design a GUI program in python which will display the average of three subject marks of any student. [COIII, Unit-IV, Apply, LOT]
30) What is the use of read(),write (),open() and close() function in file? [COIII, Unit-IV, Apply, LOT]
31) Write the function to send data from a GUI interface to a database (employeedb) which contain a table employee whose attribute are empname, salary and designation. The GUI interface contains the entry widgets namely e1, e2 and e3 for employee name, salary and designation respectively. [COIV, Unit-IV, Apply, LOT]
32) Explain the prerequisite for connecting Python with a database . [COIV, Unit-IV, Apply, LOT]

Section C **(6x 20=120)**

33) Develop a Python program using different data types (int, float, string) to perform addition, multiplication, and string concatenation. Analyze how basic operators (+, , */, //)* work with different data types. [CO2, Unit-I, Create, HOT]
34) Develop a Python program using a 'for' loop to demonstrate the use of 'break', 'continue', and 'pass' statements. Analyze how each statement affects the program's flow. [CO2, Unit-II, Create, HOT]
35) Design a Python program that performs the following operations on a user-defined string: (i)Check if the string is a palindrome (reads the same backward as forward). (ii)Replace all vowels in the string with the character '#'.Use appropriate comment for increasing the readability of the program. [CO2, Unit-III, Create, HOT]
36) Develop a Python program to perform division of two user-input numbers using exception handling. Analyze how the 'try', 'except', and 'finally' blocks manage errors like division by zero. [CO3, Unit-IV, Create, HOT]
37) Develop a Python GUI application using Tkinter to perform addition of two numbers entered by the user. Analyze how Tkinter handles events (like button clicks) to display the result in the window. [CO3, Unit-IV, Create, HOT]
38) Develop a Python GUI application using Tkinter to send student information (roll number, name, marks) to a database named 'studentdb'. Analyze how the program connects the GUI with the database to store data., [CO4, Unit-IV, Create, HOT]

Summary Sheet:

CO Wise

CO	Q. No	Marks
CO1	1-7,20,33	65
CO2	8-11,21,22,34	60
CO3	12-19,23-30,35,36	160
CO4	31,32,37,38	60
Total		**345**

Unit Wise

Unit	Q. No	Marks
Unit 1	1-7,20,33	65
Unit 2	8-10,21,22,34	55
Unit 3	11-15,23-27,35	95
Unit 4	16-19,28-32,36-38	130
Total		**345**

Blooms Taxonomy Level (BTL) Wise

BTL	Q. No	Marks
LOT	1-32	225
HOT	33-38	120
Total		**345**

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Disclaimer: - This is a Practice Set. The Question in End term examination will differ from the Practice set. This Practice set is meant for practice only.