

Hall Ticket Number:

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Code No. : 13154 S (G) N/O

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD

Accredited by NAAC with A++ Grade

B.E. III-Semester Supplementary Examinations, August-2023

Principles of Python Programming (OE-I)

Time: 3 hours

Max. Marks: 60

Note: Answer all questions from Part-A and any FIVE from Part-B

Part-A (10 × 2 = 20 Marks)

Q. No.	Stem of the question	M	L	CO	PO
1.	Write the output of the given code: i=5 while i>=0: print(i) i=i-1	2	2	1	1
2.	Write Pythonic code to check if a given year is a leap year or not.	2	3	1	1,2
3.	What is lamda function ? Give example.	2	2	2	1,2
4.	Write a Python program to convert height in feet and inches to cm. [1 feet = 12 inch and 1 inch= 2.54 cm] (Sample input: 2 feet 7 inch Sample output: 78.74 cm)	2	3	2	1,2
5.	What are advantages of Tuple Over List	2	1	3	1,2
6.	Write Pythonic code to find Mean, Variance and Standard Deviation for a given list of numbers. List=[4,2,0,1,3,45,23,89]	2	3	4	1,2,3
7.	Discuss zip() function with an example.	2	2	4	1,2
8.	Write Python program to generate a dictionary that contains (i: i*i) such that i is a number ranging from 1 to n.	2	3	4	1,2
9.	What are different applications of Python? Give example;	2	2	1	1,2
10.	Write a python program to determine whether a person is eligible to vote or not.	2	3	2	1,2
Part-B (5×8 = 40 Marks)					
11. a)	Describe Arithmetic Operators, Assignment Operators, Comparison Operators, Logical Operators and Bitwise Operators in detail with examples.	4	1	1	1,2
b)	Write a Python program to check the validity of a password given by the user. The Password should satisfy the following criteria: 1. Contain at least 1 letter between a and z 2. Contain at least 1 number between 0 and 9 3. Contain at least 1 letter between A and Z 4. Contain at least 1 character from \$, #, @ 5. Minimum length of password: 6 6. Maximum length of password: 12	4	3	1	1,2,4

12. a)	Write a Python program to solve the Fibonacci sequence using recursion	4	2	2	1,2
b)	Report the Value for $\sin(x)$ up to n terms using the series $\sin(x) = \frac{x}{1!} - \frac{x^3}{3!} + \frac{x^5}{5!} - \frac{x^7}{7!} + \dots$ where x is in degrees	4	3	2	1,2,4
13. a)	Explain the use of join() and split() string methods with examples. Describe why strings are immutable with an example.	4	2	3	1,2
b)	Write a program to remove all duplicates from a given list. List = [1,2,3,4,5,6,7,6,5,4]	4	3	3	1,2,3
14. a)	What is a Tuple? Write any 5 basic tuple operations with an example.	4	2	4	1,2
b)	Write a program that has dictionary of names of students and a list of their marks in 4 subjects. Create another dictionary from this dictionary that has name of the students and their total marks.	4	3	4	1,2,3
15. a)	Illustrate the different types of control flow statements available in Python with flowcharts	4	2	1	1,2
b)	Write a python program to print the following pattern: * ** *** **** *****	4	3	2	1,2,3
16. a)	Write Python program that accepts a sentence and calculate the number of words, digits, uppercase letters and lowercase letters.	4	3	3	1,2
b)	Discuss the following dictionary methods with an example. a) get() b) keys() c) pop() d) update() e) values() f) items()	4	2	4	1,2
17.	Answer any <i>two</i> of the following:				
a)	Write a Python program to check if a 3 digit number is Armstrong number or not.	4	3	1	1,2
b)	Find the area and perimeter of a circle using functions. Prompt the user for input.	4	2	2	1,2
c)	What are the different operations that can be performed on a list? Explain with examples.	4	1	3	1,2

M : Marks; L: Bloom's Taxonomy Level; CO; Course Outcome; PO: Programme Outcome

i)	Blooms Taxonomy Level – 1	20%
ii)	Blooms Taxonomy Level – 2	35%
iii)	Blooms Taxonomy Level – 3 & 4	45%
