

Hall Ticket Number:

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Code No. : 12627 N/O

## VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD

Accredited by NAAC with A++ Grade

B.E. (I.T.) II-Semester Main &amp; Backlog Examinations, August-2023

### Python Programming

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.	Justify the statement: "Python Interpreter can run interactively to support program development".	2	3	1	1,2
2.	Differentiate between counter controlled loop and condition controlled loop.	2	2	1	1,2
3.	Analyze the following code segment and find the output L1 = [100,900,300,400,500] START = 1 SUM = 0 for C in range (START,4): SUM = SUM + L1[C] print (C, ":", SUM) SUM = SUM + L1[0] * 10 print (SUM)	2	3	2	1,2
4.	What will happen when the strip () method is used with a string argument?	2	1	2	1
5.	What is the significance of enumerate () function in python?	2	1	3	1
6.	Write a function <b>find_common_keys (dict1, dict2)</b> for finding common keys in two dictionaries.	2	3	3	1,2
7.	What is Class instantiation and how class members are accessed?	2	1	4	1,2
8.	Define the terms: 'intermediate class' and 'inheritance path' in case of multi-level inheritance	2	1	4	1,2
9.	Define assertion. Write a program that finds smaller of two given numbers. If the first number is smaller than the second, then generate an Assertion error.	2	2	5	1,2
10.	What is JSON? Write a python code to create and open a JSON file	2	3	5	2
<b>Part-B</b> (5 × 8 = 40 Marks)					
11. a)	Explain the different data types available in Python with examples.	4	2	1	1,2
b)	Write a python program to 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	1	1,2

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12. a)	What is NumPy? Explain the creation of NumPy arrays from List along with its attributes.	4	1	2	1,2
b)	Define Slicing and Striding in strings. Write a Python program to sort words in a sentence in decreasing order of their length. Display the sorted words along with their length.	4	3	2	1,2
13. a)	Discuss the following dictionary methods with an example. i) get() ii) keys() iii) pop() iv) update() v) values() vi) copy()	4	1	3	1,2
b)	Explain the various built-in functions of tuple. Write a python program to check if one tuple is subset of the other.	4	3	3	1,2
14. a)	How does method overload work in Python? Illustrate with a program to overload subtraction and multiplication operators.	4	2	4	1,2
b)	Define a python class <b>Student</b> and include the functions getStudent(), putStudent(), result() and search(). <ul style="list-style-type: none"> <li>▪ Store student information like name, rollno, marks of 5 subjects using getStudent().</li> <li>▪ Calculate the percentage of result using result ().</li> <li>▪ Perform search () function based on the minimum and maximum percentage of the student provided as input by the user</li> <li>▪ Print the details of the student using putStudent () within the specified range of percentage.</li> </ul>	4	3	4	1,2
15. a)	Define Exception. Illustrate how you can handle Multiple Exceptions in a program	4	2	5	1,2
b)	What are the different types of files. Write a python program to copy contents of file "first.txt" to another file "second.txt" by converting the lowercase letters of the file "first.txt" to upper case in "second.txt".	4	3	5	1,2
16. a)	Write a python program using functions to convert an Octal number into its Decimal equivalent and vice versa based on user's choice.	4	3	1	1,2
b)	Define Regular Expressions. Explain match (), search (), sub () and finditer() functions in python, using examples.	4	2	2	1,2
17.	Answer any <i>two</i> of the following:				
a)	Explain Python Sets and its operations with example.	4	2	3	1,2
b)	Illustrate the concept of Multipath Inheritance with an example program.	4	3	4	1,2
c)	Write a Python turtle program to draw a blue square of size 200 and then draw a green circle which touches the square on all sides from inside.	4	3	5	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	30%
iii)	Blooms Taxonomy Level – 3 & 4	50%

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