# VASAVI COLLEGE OF ENGINEERING *(AUTONOMOUS)*, HYDERABAD

*Accredited by NAAC with A++ Grade*

## B.E. II-Semester Advanced Supplementary Examinations, September-2023

## Python Programming

(Common to CSE & AIML)

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. | Explain shift operators and give the output of the following code snippet:<br>n=5<br>Result=n<<1<br>Print(Result) | 2 | 3 | 1 | 1,2 |
| 2. | Why continue statement is used in python? Give an example. | 2 | 1 | 1 | 1 |
| 3. | Briefly discuss about reduce() function and write a program to print product of numbers in a list using reduce() function. | 2 | 2 | 2 | 1,2 |
| 4. | Explain the significance of regular expressions and write code to print first word of the string using regular expressions. | 2 | 3 | 2 | 1,2,3 |
| 5. | Differentiate lists and tuples and give example for each illustrating the concept of mutability and immutability. | 2 | 2 | 3 | 1,2 |
| 6. | What is the output of following code snippet:<br>D={"Rollno":105, "Name":"Vasavi", "Course":"BE_CSE"}<br>Print(sorted(D.keys()))<br>Print(sorted(D.values())) | 2 | 2 | 3 | 1,2 |
| 7. | Explain the purpose of file pickling and discuss about the methods used for pickling. | 2 | 1 | 4 | 1,2 |
| 8. | Discuss about different types of errors in python and discuss about how exceptions are handled in python. | 2 | 1 | 4 | 1,2 |
| 9. | Explain the purpose of __init__() method and give an example to illustrate it. | 2 | 1 | 5 | 1,2 |
| 10. | Write python code to print current date and time. | 2 | 2 | 5 | 1,2 |
| | *Part-B (5×8 = 40 Marks)* | | | | |
| 11. a) | Write a python program that prompts the user to enter the following employee details until the user chooses to stop entering the data. The program should allow the user to enter the following details like: emp_id, emp_name, hourly_rate, no_of_hours and then compute the monthly salary for each employee using the formula:<br>Monthly_salary=hourly_rate*no_of_hours.<br>After calculating salary, the program should display emp_id, emp_name and his/her monthly salary. | 4 | 2 | 1 | 1,2,3 |

| | | | M | L | CO | PO |
|---|---|---|---|---|---|---|
| | b) | Explain the following relevant to functions in python - required arguments, keyword arguments, default arguments and variable-length arguments and give example for each. | 4 | 2 | 1 | 1,2 |
| 12. | a) | Distinguish append() and extend() methods, pop() and remove() methods in lists and give an example to illustrate both the differences. | 4 | 3 | 2 | 1,2 |
| | b) | Write a python program that accepts a string from the user and display the total no of upper case letters, lower case letters and any other special symbols. | 4 | 3 | 2 | 1,2,3 |
| 13. | a) | Write a python program that accepts any five radius values for a circle from the user and creates a dictionary of 5 key value pairs such that key holds the radius and value holds the area of a circle and then prints the dictionary. | 4 | 3 | 3 | 1,2,3 |
| | b) | Distinguish tuple and dictionary and write a program to accept a tuple of both positive and negative numbers and create a new tuple which holds only positive numbers from accepted tuple and print it. | 4 | 2 | 3 | 1,2,3 |
| 14. | a) | Write a program to read rno and name of a student. Raise appropriate exceptions if the rno is negative and if name starts with integer. | 4 | 3 | 4 | 1,2,3 |
| | b) | Explain the purpose of with statement when working with files in python and discuss its advantages. Also give an example to illustrate its usage. | 4 | 2 | 4 | 1,2 |
| 15. | a) | Explain about multiple inheritance and multi level inheritance in python and give an example to demonstrate both of them. | 4 | 1 | 5 | 1,2 |
| | b) | Discuss about operator overloading and write a program to add two complex numbers by overloading the + operator. | 4 | 3 | 5 | 1,2,3 |
| 16. | a) | Explain about recursive function and write a program to accept n value from user and print Fibonacci series upto n terms using recursive approach. | 4 | 2 | 1 | 1,2,3 |
| | b) | Explain how an array is created using numpy and write python program to accept two matrices from user and print their product | 4 | 3 | 2 | 1,2,3 |
| 17. | | Answer any *two* of the following: | | | | |
| | a) | Explain the purpose of sets in python and discuss any five set operations with examples. | 4 | 1 | 3 | 1,2 |
| | b) | Write a python program that generates a quiz and uses two files – questions.txt and answers.txt. The program opens questions.txt and reads a question and displays the question with options and then opens the answers.txt and display the correct answers. | 4 | 3 | 4 | 1,2,3 |
| | c) | Discuss about public variables and private variables relevant to OOPs concept in python and write a program to demonstrate their difference. | 4 | 2 | 5 | 1,2,3 |

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

| i) | Blooms Taxonomy Level – 1 | 20% |
|---|---|---|
| ii) | Blooms Taxonomy Level – 2 | 40% |
| iii) | Blooms Taxonomy Level – 3 & 4 | 40% |

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