

- Q1.a. What does a cross platform language mean? 1
- b. Who was Python's developer and which two languages contributed to Python as a programming language? 1
- c. When would you prefer tuples over lists? 1
- d. Predict the output. 1
- ```
tuple1 = ('Python')*3
print(type(tuple1))
```
- e. How is clear() function different from del<dict> statement? 1
- f. Describe Cyber stalking. 1
- g. Which method of list is used to delete an element using its value. 1
- Q2.a. What will be the output produced by following code? 2
- ```
value = 'Simar'
age = 17
print(name, ", you are", 17, "now but", end=' ')
print("you will be", age + 1, "next year")
```
- b. Can nongraphic characters be used in Python? How? Give examples to support your answer. 2
- c. Prove the following : 2
- $$A(B + B'C + B'C') = A$$
- d. What are data types? What are Python's built-in core data types? 2
- e. What is debugging and code tracing? 2
- Q3.a. What do you understand by true copy of a list? How is it different from shallow copy? 2
- b. Predict the output 2
- ```
my_list = ['p', 'r', 'o', 'b', 'l', 'e', 'm']
my_list[2 : 3] = []
print(my_list)
my_list[2 : 5] = []
print(my_list)
```
- c. What is the difference between an interpreter and a compiler? 2
- d. Convert the following decimal number to binary  $161_{10} = ?_2$  2
- e. Convert the following hexadecimal numbers to octal  $38AC_{16} = ?_8$  2
- Q4. a. What do you understand by Identity theft? 2
- b. Draw the AND-OR circuit for 2
- $$y = AB'C'D' + ABC'D' + ABCD$$
- c. What are cookies ? How are they used by websites to track you? 2
- d. What should you do to protect your identity on Internet? 2
- e. What will be the output of following code? 2
- ```
x,y=2,6
x,y=y,x+2
print(x,y)
```
- Q5.a. What is data privacy? Websites that you visit collect what type of information about you? 2
- b. Write following expression in Python 3
- i)  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$  ii)  $(x-h)^2 + (y-k)^2 = r^2$

- c. Write program using nested loops to produce the following patterns : 3
- ```

1
1 0
1 0 1
1 0 1 0
1 0 1 0 1

```
- d. Explain the following functions : 3  
i) capitalize () ii) isalnum iii) lstrip()
- e. Write a Python secondLargest(T) which takes as input a tuple T and returns the second largest element in the tuple. You can use any of the standard Python functions to obtain your result. 3
- Q6.a. Given two dictionaries say D1 and D2. Write a program that lists the overlapping keys of the two dictionaries, i.e. if a key of D1 is also a key of D2, then list it. 3
- b. Explain Dynamic Typing with example? 3
- c. Write a program in Python to input two numbers and swap them using multiple assignment feature of python. 3
- d. Viruses, pharming and phishing are all examples of potential Internet security issues. Explain what is meant by each of these three terms. 3
- e. What is i) Authentication ii) Authorization? Why are these two used together? 3
- f. Explain the following methods of dictionary with example. 4  
i) get() method      ii) items() method

----0----X----0----