JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATIONS-2022

B. Tech-III Semester (CSE)

COURSE CODE (CREDITS): 18B11CI314 (3) MAX. MARKS: 15

COURSE NAME: PYTHON PROGRAMMING ESSENTIALS

COURSE INSTRUCTORS: Jagpreet, Aman, Naveem Jaglan, Nishant MAX. TIME: 1 Hour

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

Ques. 1	Determine the output of the following codes. Also mention the reason for your solution.	**[3 marks]** **[CO 1]**

```
a.  def abc(a,b,c=4):
       return a+b+c
    print(abc(4,6,2))
    print(abc(4,6))
```

```
b.  def xyz(a,b):
       if (a==0):
       return 1
       return a+xyz(a-2,b)
    print(xyz(6,3))
    print(xyz(5,3))
```

```
c.  count = 0
    while(True):
       if count % 3 == 0:
          print(count, end = "_@_")
       if(count > 10):
          break;
       count += 1
```

Ques. 2	Write a Python Program with user defined functions to identify and remove the ith Occurrence of the given word in a List where words can be repeated.	**[3 marks]** **[CO 3]**

Ques. 3	A local biologist needs a program to predict population growth. The inputs would be the initial number of organisms, the rate of growth (a real number greater than 0), the number of hours it takes to achieve this rate, and a number of hours during which the population grows. For example, one might start with a population of 500 organisms, a growth rate of 2, and a growth period to achieve this rate of 6 hours. Assuming that none of the organisms die, this would imply that this population would double in size every 6 hours. Thus, after allowing 6 hours for growth, we would have 1000 organisms, and after 12 hours, we would have 2000 organisms. Write a python program that takes these inputs and displays a prediction of the total population.	**[3 marks]** **[CO 2]**

Ques. 4   Define and differentiate between the following by giving a suitable code   **[3 marks]**
example: **[CO 1]**
a) List and List comprehension
b) Non-Local and Global Namespace
c) Mutable and Immutable data objects in python

Ques. 5   Write a python code for the following patterns (loops).   **[3 marks]**
[CO 2]

```
1
1    1
1    2    1
1    3    3    1
1    4    6    4    1
1    5    10   10   5    1
1    6    15   20   15   6    1
```