

Department	: Computer Science	Level	: Undergraduate
Course	: Problem Solving and Algorithm	Course Code	: CSC102
Lecturer	: Aleshinloye Abass Yusuf	Exam type	: Final
Duration	: 2 Hours	Date	: 21 st June 2019

Instructions: Answer Question 1 and any other 3 Questions.

1. Answer the following short answer questions:
 - a. is the correct operator for power(x^y)?
 - b. List the order of operator precedence in python.
 - c. What is the answer to this expression, $22 \% 3$ is?
 - d. What Mathematical operations can be performed on a string?
 - e. Which one of the following listed in (b) above has the highest precedence in the expression
 - f. List two commands that will create a list.
 - g. What operator is used in slicing a string in python?
 - h. Recursion and iteration are the same programming approach. True or False? Give justification
 - i. What happens if the base condition isn't defined in recursive programs?
 - j. What keyword is use for function definition?
2. (a). What are the differences between a list and a dictionary object in python?
(b). Write python code to compute the sum and average of student scores entered via the keyboard. The program should continue to accept the score until a sentinel value is supplied.
3. (a). Write python code to find the factorial of n numbers.
(b). When is a function said to be iterative and recursive? Give an

example in each case.

4. (a). A text file named “Months and days of the year” is saved on your drive C: The file contains months of the year. Write python code to write/append the days of the week to the existing file. Ensure each day of the week is on a separate line (new line).
(b). List and explain the various modes of file operation in python.
5. (a). Define the term function.
(b). Write the body of a function that prints each word in a given file, on its own line. For example, if you were to execute `printword(“myfile.txt”)`, the function should display every word on a new line.
6. The python code presented below is aimed at determining the maximum of even integer numbers that are stored in a list. Complete the code and show the final program output.

```
def max_even(lst):  
    #Return the largest number in the input that is an even number.  
    #The input must be a list of integers.  
    #If there is no even number in the input, return None.  
    #Examples:  
    #max_even([3, 1, 4, 1, 5, 9, 2, 6, 5, 3, 5, 9]) => 6  
    #max_even([3, -1001]) => None
```

Best of Luck!!!